

The Glasgow 2014 Commonwealth Games: A Prospective Assessment of Regeneration for a Physical Activity Legacy

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The Glasgow 2014 Commonwealth Games: A Prospective Assessment of Regeneration for a Physical Activity Legacy

Executive Summary

Both the Scottish Government and Glasgow City Council expressed an intention to use the 2014 Commonwealth Games to inspire more citizens to become physically active. This report looks at the prospect of this being achieved in the East End of Glasgow, which served as the 'host' community for the Games, and was an area particularly identified as potentially benefitting from legacy.

We use a theory-based approach to assessing the potential impacts of legacy-related policies, developments and programmes. Our framework consists of examining three things:

- **People and Place:** Identifying the potential for impact, drawing on current performance data for the East End, and drawing in particular on our 2012 survey of the study area.
- **Programmes:** This part of the assessment considers the nature and success to-date of the legacy programmes relevant to sports and physical activity impacts.
- **Plausibility:** What does the existing evidence from evaluations of other multi-sport events or from other similar programmes indicate about the likely impacts upon the outcomes of interest?

We identified 39 legacy programmes relevant to a sports and physical activity legacy, which we have divided into four legacy pathways as shown below.

- **Pathway One - Sports Facilities:** This pathway includes 7 programmes relating to investment in new and improved sports and leisure facilities, so that people have the opportunity to take more exercise.

- **Pathway Two - Social Infrastructure:** This pathway relates to the development of social infrastructure through community participation, sports clubs, events, coaching and volunteers in order to stimulate grassroots participation, and includes 18 programmes.
- **Pathway Three - Schools:** This pathway includes 9 programmes which involve schools in order to promote greater levels of physical activity for children.
- **Pathway Four - Environment:** This pathway covers 4 programmes which aim to supporting physical activity and active travel through better-designed local environments.

It is clear from our investigation that in several ways, the four pathways interact and support one another. Not all the pathways and programmes are new, so our expectations of a step-change in sports participation and physical activity from the pathways must be tempered. In some areas, the Games and associated legacy programmes have sustained or enhanced an existing drive towards supporting physical activity; this is particularly true of many of the social infrastructure and schools pathway programmes.

Our overall assessment of the prospects for each of the four pathways is given below.

Pathway One: Sports Facilities: This pathway has delivered considerable investment into the East End, and provides both new facilities, and the refurbishment and expansion of some existing facilities, which should endure as a resource for residents. Although the new sports facilities are most likely to benefit those people already engaged in sport, they also offer several advantages for local people. First, they can be accessed using the usual sports and leisure club membership scheme for citizens. Second, they include community facilities, such as meeting rooms and cafes, as well as sports facilities, which can boost their appeal and familiarity to local residents. Third, they have attracted both international events and national sports administration into the area, both of which may have potential spin-off benefits in generating local interest in particular sports.

However, this pathway also faces significant constraints on its potential effectiveness in generating sports participation and physical activity. In particular, it is clear that sizeable groups in the local population would need additional targeting and support in order to

attract and enable them to use the facilities, including women, the middle aged and older cohort, and the many adults with long-term health problems who lack confidence in their ability to engage in sport and physical activity. Cost is also cited as a barrier for a significant minority of people.

Pathway Two: Social Infrastructure: The large number of programmes within this pathway is appropriate and in accord with latest recommendations as supplementary and complementary means of supporting the 'demonstration' and 'festival' effects said to flow from multi-sports events. Moreover, the organisation of these programmes by the agencies involved has increased the opportunities for participation in physical activity, and has involved targeting different population segments as part of an inclusive approach. The programmes have also been delivered by established networks many of which have pre-existing links to the study area.

Nonetheless, the social infrastructure pathway faces a number of challenges. Given that the sports facilities must meet multiple usages, community centres could offer an alternative and for some a more attractive hub or venue for organising socially-focused physical activities. The study area is, and will be, well served with such community centres in future, so that basing physical activity organisers in such venues is worthy of consideration. However, many of the social programmes intended to deliver a physical activity legacy are modestly funded and some are of finite or uncertain duration; there is a need for more long-term, sustainable initiatives in this area. But it must also be acknowledged that some of the social infrastructure programmes offer only occasional activities or activities of only minor intensity; whilst these can still mental health gains for participants, expectations as to their contribution to physical health improvement need to be realistic, although gradual improvement is a worthwhile goal for non-active groups. Lastly, the social programmes would benefit from being underpinned by longer-term efforts to raise the value of sport and physical activity in society and in the East End community through a general, public information campaign.

Pathway Three: Schools: Schools are an important environment for supporting access to physical activity opportunities for children and young people in deprived areas, and for establishing lifestyle habits that will endure into adulthood. Schools in the East End have, and are, benefitting from proximity to the new and enhanced sports facilities in the area.

Programmes operated through schools have importantly taken an inclusive approach, aiming for increased physical activity for all. The use of peer-to-peer encouragement mechanisms, and supporting pupils to identify their own physical activity needs and wants, has been advantageous. Following the Games, schools report interest among pupils in new or different sports, and some more interest from staff in supporting extra-curricular sports and physical activities.

The schools pathway is constrained in its ability to impact on pupils' physical activity in two key respects. First, schools in deprived areas in the city, such as the East End, have less scope to benefit from parental financial and instrumental support for extra-curricular sports and physical activities, thus placing a greater burden on staff, if and when such activities are possible. Second, this pathway has not so far been able - despite the important role of education itself - to counter the dominant sedentary culture that exists among pupils in their leisure time.

Pathway Four: Environment: There has been effective delivery of environmental works to support informal physical exercise and active travel, including public realm improvements, active travel infrastructure and greenspace developments, with more of the latter to come. Much of this offers greater opportunities for physical activity that are relevant to most of the local population, regardless of income, age, sports inclination, or physical fitness level, and thus offer plenty of scope for potential impact. Although walking is a low intensity physical activity for most people, its frequency can make a significant contribution to physical and mental health for residents who may otherwise be very inactive.

Community feedback indicates that improved pathways and better street lighting have positively impacted upon local walking, and there are some indications of increased cycling through the area. The potential importance of the improved transport networks and increased local business premises must also be acknowledged: in providing a greater level of people-traffic in the area, they may support higher levels of perceived attractiveness and safety in the area, feeding through to more local physical activity.

However, to fully realise the potential benefits of an improved urban environment and active travel infrastructure in the study area, there needs to be more and better local destinations to which and between which local residents can walk on a regular basis -

including shopping, recreational and cultural amenities which are very lacking - as well as further progress in removing unkempt and unused sites, and high standards of environmental maintenance in a mixed-use area. These things depend in turn upon the regeneration efforts in the area being sustained in the medium- to long-term.

1: Legacy from Multi-Sport Events

Introduction

In 2007 Glasgow was awarded the 2014 Commonwealth Games (CWG). The same year, the Clyde Gateway Urban Regeneration Company (URC) was established, with a twenty year remit to achieve 'physical, economic and social change' across 840 hectares of the East End of Glasgow and neighbouring South Lanarkshire. Glasgow still suffers from greater rates of deprivation than other Scottish cities and Scottish Index of Multiple Deprivation (SIMD) data for 2012 shows that, of the 15% most deprived administrative datazones in Scotland, over one third fall within the Glasgow city boundary (SG, 2012). However, from 2007 to date, parts of the East End of the city have undergone change at a rate and intensity outstripping that in the city's other designated transformational regeneration areas¹. This report sets out a framework for evaluating how this period of concentrated investment might impact on the planned physical activity 'legacy' of the CWG for the host community, in the East End of the city.

We draw on both survey and interview data from *GoWell: Studying Change in Glasgow's East End*, a five year study examining the role of regeneration in health and wellbeing. Contextual literature outlining the discrepancy between legacy commitments to support physical activity and the evidence base relating to major sporting events is followed by the development of an evaluation framework and description of the main study methods. Thereafter, following a review of all the major legacy programmes, four key pathways linking the regeneration and legacy programmes on the one hand and sport and physical exercise on the other are identified and explored using the proposed evaluation framework. In conclusion, a prospective assessment of the relevance, scale, targeting and plausibility of active legacy programmes in relation to the CWG host community is offered.

Multi-Sport Events and the Concept of Legacy

The explicit language of 'legacy' and the growth in academic interest in the topic are relatively recent (Gold and Gold, 2008; Preuss, 2007). However, in a short time, research has offered considerable contributions to our understanding of the function, object and

¹ At the end of 2014 work had begun in six of eight identified Transformational Regeneration Areas (TRAs) in Glasgow. The TRA programme, initiated in 2009, aims to deliver sustainable, mixed tenure communities through combinations of housing, community facility, greenspace or commercial unit development.

nature of legacy. Much of this work has focused on the Olympic Games which, as the archetypal multi-sport event, are of particular interest due to their profile, scale and impact on the host city.

During the final two decades of the twentieth century, the cost of hosting the Olympics greatly increased, as eighty more events and seven new sports were included in the Games (Cashman, 2002). In 2002, the International Olympic Committee (IOC) amended the Olympic Charter with a requirement that host cities consider legacy from the start of the bidding process and take 'measures to promote a positive legacy from the Olympic Games to the host city and the host country' (IOC, 2002; IOC, 2003, p5). This institutionalisation of 'legacy' can be considered as a response to unsustainable gigantism in multi-sport events, with its corollary risk to host cities from high costs and under-used 'white elephant' venues (Chalkley and Essex, 1999; Coaffee and Johnston, 2007; Gold and Gold, 2009; Mangan, 2008). As such, the legacy concept functions to serve both putative host cities and the multi-sport event awarding body, deflecting blame from the awarding body in relation to the cost and demonstrating the value of the event to the hosts, justifying public expenditure and infrastructure development, as well as supporting future events by motivating potential bidders (Chalip, 2000; Gratton and Preuss, 2008). Although modest in relation to the Olympics, the cost of staging the Commonwealth Games is still considerable, with a budget of £575m. Funding for the net public cost of the 2014 CWG was agreed by the Scottish Government (SG) and Glasgow City Council (GCC) on the basis of an 80%:20% split (Audit Scotland, 2012).

As legacy has increasingly been used as a rationale for hosting multi-sport events (Evans, 2007), debate over the object of legacy has intensified. Potential legacy outcomes have been classified under a range of domains. An early typology, presented at an IOC symposium identified six legacy domains: economic; physical infrastructure; education; public life, politics and culture; sport; and symbols, memory and cultural history (Cashman, 2003). Since then, different authors have added to or emphasised particular aspects of these already broad categories (Chappelet, 2006; Preuss, 2007; Taylor and Edmondson, 2007; Toohey, 2008). More recently, using a content analysis of Olympic bid documents and final reports, Leopkey and Parent (2011) identified at least seven further legacy themes, including environmental, urban, image, informational/educational, sustainability and the Olympic Movement itself. Eschewing further classification, Chappelet provides a working definition of legacy as 'all that remains and may be considered as consequences of the event in its environment' (2012, p.77). However, for all

that multi-sport events have been theorised or anticipated as having impacts across a wide range of fields, the predominant focus of legacy claims are related to the economic domain (McCartney *et al.*, 2010).

The use of multi-sport events as a lever for significant urban investment 'well beyond the construction of sports facilities' has been traced back to the 1960 Olympics in Rome (Essex and Chalkley, 1998, p195; Smith, 2012). Despite a hiatus, following the financially disastrous 1976 Montreal Olympics, the trend for using the event as a stimulus for urban regeneration was re-established from 1988 onwards (*ibid.*). Davies argues that the scale of multi-sport events necessitates substantial urban modifications and that urban regeneration draws together several individual components of legacy (2012). This highlights an element of circularity in the concept of legacy: the changes required by the event also provide the rationale for hosting the event.

From an event management perspective, marshalling agreement from multiple actors with potentially diverse interests is a precondition of mounting a bid (Parent and Smith-Swan, 2014). As such, the flexibility - or vagueness - of the term 'legacy' can be considered to be a strength, making it easier to build such a coalition. However, this utility is double-edged, and in exploring the nature of legacy, the ramifications of the word have come under considerable scrutiny. Cashman went so far as to describe the term as 'dangerous', open to multiple interpretations in English as well as cross-culturally (2003, p.33). Given that one meaning of legacy in English is a 'bequest', carrying implications of benefit or positive outcome (*ibid.*), and the propensity of event organisers to stress potentially positive outcomes, the scope for negative legacy arising from multi-sport events is a less often considered point (Cashman, 2002; Chappelet, 2003; Gold and Gold, 2010; Mangan and Dyreson, 2009). Further, in analysing the complex and multi-faceted nature of legacy, Preuss has highlighted the positionality inherent in defining a legacy outcome as either positive or negative: 'a positive legacy for the tourism industry may be a negative legacy for the environment (2007, p.211), illustrating that perception of legacy is contingent on both temporal and spatial perspective. Striving for a holistic conception of legacy, Preuss has proposed:

'...all planned and unplanned positive and negative, tangible and intangible structures created for and by a sport event that remain longer than the event itself.'
(2007, p.211)

Notably then, 'legacy' is something that can precede or occur during the event from which the legacy is said to arise (Hiller, 2006; Weed, 2009a), and different stakeholder groups will have different legacy priorities (Smith, 2012). However, institutional demands and the exigencies of building policy coalitions can result in a tendency to emphasise the planned, the positive and the tangible aspects of legacy when planning for a multi-sport event (Cashman, 2005; Preuss, 2007; Gratton and Preuss, 2008). Similarly, a systematic review of evidence from multi-sport events has been critical of a likelihood of bias towards positive results in findings (McCartney *et al.*, 2010).

Theorising a Physical Activity Legacy

In theorising how multi-sport events might impact upon physical activity in the wider population, McCartney *et al.* identified 'sports participation' as one of seven critical pathways linking the 2014 CWG to health (2013). This pathway was comprised of four routes: sports participation programmes; provision of new infrastructure; sports role models; and festivities and culture of sports participation (*ibid.*, p.29). The authors echoed earlier concerns about the CWG scope for increasing health inequalities, noting the relatively modest expenditure on facilities and that the velodrome was likely to mostly benefit existing and elite sports participants.

McCartney *et al.* (2013) associated the 'sporting role model' and 'festivities and culture' routes with the 'demonstration' and 'festival' effects respectively (see Weed *et al.*, 2009a, 2009b). *The demonstration effect is 'a process by which people are inspired by elite sport, sports people or sports events to participate themselves* (Weed *et al.*, 2009b, p.4). The festival effect draws on Chalip's conception of 'communitas' (2006) as a factor encouraging increased participation in informal activity through the desire to be part of a shared event, especially 'if the event is perceived of as being bigger than and beyond sport' (Weed *et al.*, 2009a, p.10). *Thus, the festival effect includes involvement with physical activity via initiatives relating to the multi-sport event, such as volunteering or community engagement.* The 'festival effect', positioning the multi-sport event as a locus of community involvement, has been assessed as the most likely pathway for increasing physical activity in the least active members of the population (Weed *et al.*, 2009a). Notably this may be at the level of the very early stages of behavioural change, such as a shift to *contemplating* physical activity (*ibid.*). These effects can be considered as a development of the transtheoretical stages of change model, which uses the concept of readiness for behavioural change as a means of designing and supporting interventions

(Prochaska and Velicer, 1997). As well as stage-matching participants to interventions, the Active Celebration approach, designed for the London 2012 Olympics, sought to value-match² participants to programmes, using a range of demonstration- and festival-based strategies (Mansfield et al., 2010; SPEAR, 2010).

However, achieving sustained behavioural change in relation to physical activity is notoriously challenging and the evidence base relating multi-sport events to improved participation in physical activity is weak. The Culture, Media and Sport Committee (CMSC), reporting in advance of the London 2012 Olympics noted that “No host country has yet been able to demonstrate a direct benefit from the Olympic Games in the form of a lasting increase in participation” (2007, p.37); early findings from the English Health survey also suggest a lack of observable effect on physical activity (Craig and Mindell, 2013). Likewise, in a systematic review of the health and socio-economic impacts of multi-sport events (covering fifty-four studies, conducted between 1978-2008), McCartney *et al.* concluded that, due to the poor quality of available research, it was not possible to offer firm evidence of either positive or negative impacts on health outcomes in the host cities, and that no automatic benefits would be derived from hosting a multi-sport event (2010). Moreover, of the fifty-four studies reviewed, the majority of outcomes examined related to economic growth or employment (*ibid.*), while only two dealt directly with sports participation in relation to multi-sport events.

Additional to the challenge of understanding any relationship between multi-sport events and physical activity, the role of multi-sport events in relation to the immediate host community is also contentious, and concern over disbenefits to the relatively poor communities around Games sites form a notable theme in the research literature (Lenskyj, 2002; Gray and Mooney, 2011; Paton *et al.*, 2012; Porter *et al.*, 2009). In relation to the 2014 CWG, the SG consultation paper on effectively harnessing legacy raised concerns from health organisations around the issue of health inequalities, including the possibility that inequalities might grow without targeting towards more vulnerable groups (HRC/ACC, 2008). Reviewing the MORI analysis of sporting participation following the Manchester 2002 Commonwealth Games, McCartney *et al.* (2010) noted that, as well as a 2% decrease in overall sports participation (at a level of four or more times in the past four weeks), there

² The theory of value-matching is that programmes supporting physical activity can be aligned to target population subgroups on the basis of their pre-existing personal values about a range of topics, including sport, lifestyle, family, community and the environment (see SPEAR, 2010, pp.6-7) e.g. someone not specifically interested in sport might be more open to physical activity centred around socialising or engaging with their children.

was a significant increase in inequalities in participation between deprived and more affluent areas. Similarly, after an initial decline in the number of people participating in sport following the London 2012 Olympics, more recent figures from Sport England's June 2014 *Active People* survey showed a significant increase, giving the highest levels of sport participation since the survey began in 2005; however, there was no overall increase in physical activity and uptake was greatest for managerial and professional people and lowest for manual workers and the unemployed (Sport England, 2014).

Summary

Legacy from Multi-Sport Events

- 'Legacy' is a highly contested term, which has been used to justify high levels of expenditure associated with multi-sport events.
- Legacy plans predominantly focus on economic benefit and argue that multi-sport events will stimulate urban regeneration.
- A holistic understanding of legacy is needed to avoid a bias towards positive evaluations.
- Role models and the desire to 'join in' have been theorised, respectively, as 'demonstration' and 'festival' effects which might support a physical activity legacy from multi-sport events.
- The evidence base linking multi-sport events to increased physical activity is weak and more vulnerable social groups seem less likely to benefit.

2: A Prospective Assessment of the Physical Activity Legacy from Glasgow 2014 Commonwealth Games

The Glasgow 2014 Commonwealth Games and a Physical Activity Legacy

The Glasgow Commonwealth Games were scheduled over 12 days in July-August 2014, including opening and closing ceremonies. As well as around one million tickets for 261 events across 17 different sports, the CWG celebration included the Glasgow 2014 Cultural Programme. This comprised 'Culture 2014' celebrations across Scotland for the year leading up to the CWG, and 'Festival 2014' activities in Glasgow, running in parallel to the sports events at Games time. Although venues across and beyond the city hosted both sports and cultural activities associated with the Games, the most concentrated centre of activity was in the relatively impoverished East End of Glasgow. The city's candidature file, submitted to the Commonwealth Games Federation (CWGF) in May 2007, contained a chapter on the theme of cultivating local support (GCC, 2007). Accordingly, local and central government identified benefits to the East End of the city - which is home to some of Glasgow's most disadvantaged communities - as being of special interest. Both the Scottish Government and Glasgow City Council identified physical activity as a legacy 'theme' under which they expect programmes to have impact.

Evaluative Framework

The approach taken to this assessment is informed by theory-based evaluation, considering the context within which programmes operate, the circumstances under which they might function successfully, and for whom they may, or may not, be useful (Kazi, 2000; Pawson and Tilley, 1997).

The investigation comprises an assessment based on three areas of inquiry. First, we examine the context in which the legacy programmes operate, considering the study area and population. Second, the legacy programmes are analysed in order to understand the mechanisms through which they are assumed to function. Thirdly, we investigate the evidence base to assess the plausibility of proposed outcomes in relation to the host community.

Drawing on information from key stakeholders, we identified developments and programmes relevant to current regeneration in the East End of Glasgow and/or to the CWG. We then identified those programmes relevant to having physical activity impacts, going beyond those identified as within the 'Active' Scotland and Glasgow legacy themes.

Further information on the nature of the programmes (e.g. what policy instruments were being utilised; which groups were being targeted), their scale of operation (e.g. monies allocated; outputs anticipated), and their spatial focus or targeting was collected wherever possible.

The prospects for physical activity impact were considered using a set of criteria organised into three areas of assessment (see Table 1).

Table 1 Framework for prospective assessment of legacy impacts

<p><u>People and Place:</u> Identifying the potential for impact, drawing on current performance data for the study area. Three questions are considered:</p> <p><i>Scope:</i> How much <i>scope</i> or room for improvement is there, compared with city and national norms?</p> <p><i>Preferences:</i> What are the <i>preferences</i> of local residents for some of the programmes being delivered and outcomes being sought through legacy?</p> <p><i>Barriers:</i> Are there identifiable <i>barriers</i> to the programmes having impact upon the East End community, or upon their intended beneficiaries?</p> <p><u>Programmes:</u> This part of the assessment considers the nature and success to-date of the legacy programmes relevant to sports and physical activity impacts. Four groups of questions are asked:</p> <p><i>Relevance:</i> Are programmes being delivered which are relevant to producing the outcomes sought? Are the programmes relevant to the needs & interests of the host community?</p> <p><i>Scale:</i> Are the programmes of sufficient scale (in terms of money or intended participants/beneficiaries) to have impact within the study area?</p> <p><i>Targeting:</i> Are the programmes targeted in whole or in part upon the East End community? Or is the East End one among many areas that may potentially benefit from the programmes? Is there any evidence of East End impacts?</p> <p><i>Feasibility:</i> Are programmes being implemented as planned and are outputs emerging which are necessary for impacts upon outcomes? What causal pathways are providers anticipating?</p> <p><u>Plausibility:</u> In order to assess the plausibility of what is being attempted, we address the following three kinds of questions:</p> <p><i>Evidence:</i> Does the existing evidence from evaluations of other multi-sport events or from other similar programmes indicate that impact upon the outcomes of interest is likely?</p> <p><i>Linkages and Pathways:</i> Is there evidence that indicates that key linkages or elements for success are present or absent from programmes? What causal pathways would the research evidence suggest might be operative or required?</p>
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This structure for the prospective assessment can be considered a development of the criteria set out by Connell and Kubisch (1998) - namely that programmes and their outcomes are plausible, do-able and testable - and similar to the approach taken in Theory of Change evaluations which combine process information with primary and secondary outcome data (MacKenzie and Blamey 2005).

The Study Area

For the purposes of this assessment, (as well as the Scottish Government evaluation of legacy in the East End overall), the East End 'host' community is defined as lying within an area approximately co-terminus with the Glasgow City Council East End Local Development Strategy Area (GCC, 2008) - see Figure 1. In 2012, the study area comprised 623 hectares, around 11,000 dwellings and a population of nearly 19,000 living in six communities: Bridgeton, Calton, Camlachie, Dalmarnock, Gallowgate and Parkhead (Figure 2). This geography includes the location of the main new stadia for the 2014 Games (Emirates Stadium and Sir Chris Hoy Velodrome) and the site of the Athletes Village. It is bounded by the River Clyde to the south, and the new International Hockey Centre and upgraded Tollcross International Swimming Centre to the west and east, respectively.



Figure 1 The Study Area 'host community' (purple boundary), within the context of the greater East End (red boundary)

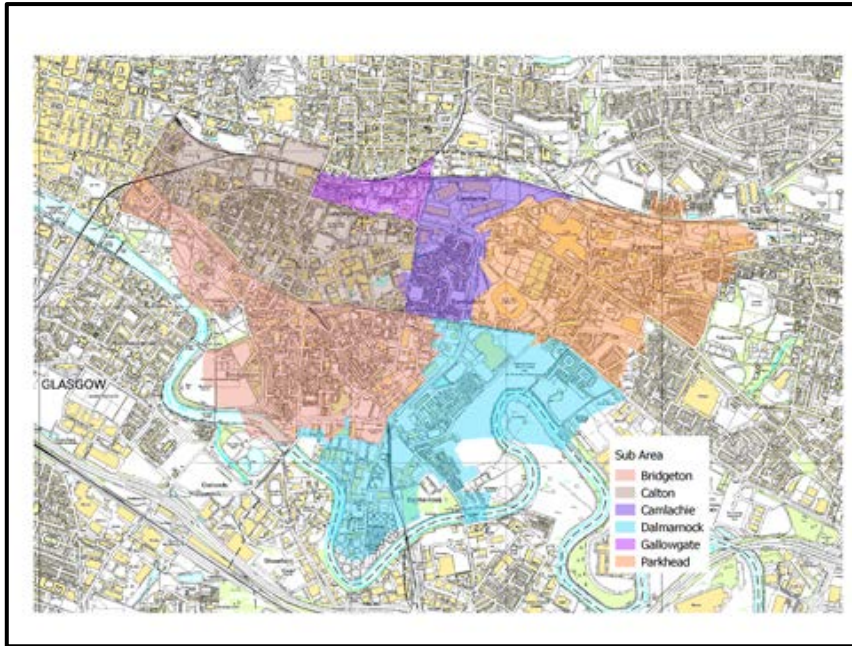


Figure 2 The Study Subareas

GoWell: Studying Change in Glasgow's East End

The main data source for this prospective assessment is the 2012 GoWell East baseline survey. The aim of this household survey was to recruit a longitudinal cohort to the study, which could be studied in 2012 and followed up subsequently in the year of the Commonwealth Games, 2014, and two years afterwards in 2016 to assess medium term impacts of changes and events around the Commonwealth Games 2014. The baseline survey was carried out between 28th May and 20th August 2012, across the six communities that make up the study area, and involved the participation of a sample of 1,015 householders (aged over 16 years), with a response rate of 9.8 percentⁱ. Table 2 shows the breakdown of the achieved sample by constituent community, and the close comparison with the distribution of residential properties across the study area.

Table 2 Study Subarea Interviews Achieved

Sub-Area	Interviews Achieved	% of Total Interviews	% of Dwellings in Study Area ¹
Bridgeton	355	35.0	36.4
Calton	207	20.4	21.8
Camlachie	58	5.7	4.1
Dalmarnock	98	9.7	9.1
Gallowgate	44	4.3	6.4
Parkhead	253	24.9	22.2
Total	1,015	100.0	100.0

¹ Source: Glasgow Council Tax Register, 2011

Data collected from the cohort has been weighted to match the adult population of the study area according to gender, age, household tenure and subarea; a comparison of the characteristics of the sample and those of the study population can be found in Clark and Kearns (2013).

Survey participants answered a wide range of questions including about their:

- homes and households;
- local neighbourhood;
- health and wellbeing;
- physical activity, including sports participation;
- cultural participation, group and voluntary activities;
- modes of travel; and
- expectations of and attitudes towards the 2014 Commonwealth Games.

GoWell East Longitudinal Controlled Study of Youth Physical Activity

In relation to young people and physical activity, the data source used is the 2013, *GoWell East* cohort study of physical activity among secondary school pupils in Glasgow ('the GoWell East Schools Study'). The study runs from 2013 to 2017, following a group of pupils throughout their school career from S1 to S5, tracking pupils' participation in physical activities, including sports, as well as other types of activity, during their school time and leisure time, during the week and at the weekend. The research is done by asking pupils to complete the Youth Physical Activity Questionnaire (YPAQ)¹. A group of S5 pupils were also asked to complete the survey in 2013 in order to provide a benchmark with which to compare the S1 study cohort when they reach S5 in 2017.

As part of our wider research into the impacts of the Commonwealth Games, the project design compares physical activity of pupils in six secondary schools in Glasgow, organised into three pairings: two East End secondary schools; two secondary schools located in other deprived parts of Glasgow; and two secondary schools in more affluent parts of the city. By comparing results across the three groups of schools we can see whether physical activity is different between deprived and affluent schools, and whether there is any additional effect from being located near the main Games site in the East End of the city. A total of 740 S1 pupils completed the YPAQ survey across the six schools in May 2013.

Qualitative Data

Qualitative data has also been collected using a variety of means since the inception of the GoWell East project, early in 2012. We draw on semi-structured qualitative interviews and informal discussion with residents, feedback sessions in community and housing association venues, and interviews with school staff. With regard to policy and practice, we have conducted stakeholder workshops and information exchange sessions as well as individual and small group discussions with policy stakeholders.

Summary

Prospective Assessment of Physical Activity Legacy

- Both the Scottish Government and Glasgow City Council identified physical activity as a legacy theme for the 2014 CWG, and both emphasised benefits to the East End of the city.
- We adopt a theory-based evaluation approach to examine context, mechanisms and outcomes.
- Our framework for the prospective assessment comprises three components: a study of the people and the place of the East End; understanding the content and the dimensions of the relevant legacy programmes; and, considering the plausibility of legacy impacts based on the existing evidence base.
- The study area is GCC's East End Development Strategy Area of 623 hectares, comprising 11,000 dwellings across six local communities.
- Primary research for the study comprised: a household survey of 1,105 adults in 2012; a survey of 740 S1 secondary school pupils in 2013; and, qualitative research with residents, staff from local community organisations, and teachers.

3: People and Place - Health and Wellbeing in Glasgow's East End

The first section of the evaluation offers an overview of health and wellbeing in the East End study area, considering the scope for change, taking the preferences of local residents and barriers to programme impacts into account.

Glasgow contains the largest proportion of datazones which are amongst the 20% most deprived in Scotland, many of which are concentrated in the East End of the city. Within the study area, 21 of the 27 datazones were in the most deprived 15% in Scotland, with a further four in the most deprived quartile; the remaining two datazones were in the middle and second least deprived quintiles (SG, 2012). Deprivation is more often accompanied by damaging health behaviours and in more deprived areas life expectancy is relatively low. In comparison with a Scottish average of 76.6 years in 2010-12, male life expectancy at birth was 72.6 in Glasgow City, the lowest in the Clyde Valley region (ONS, 2014). Previous research, in the period 2008-2012, estimated male life expectancy at birth at 68.1 years in the East Glasgow Community Health Partnership area; this includes an estimate of 61.9 years for Calton and Bridgton and 62.8 years for Parkhead and Dalmarnock (GCHP, 2008). The latter four areas, combined, cover most of the GoWell East study area.

Self-assessed general health is relatively poor in the study area -see Figure 3. The 2012 GoWell East survey found that, overall, two thirds of interviewees (66%) rated their general health 'good', 'very good' or 'excellent'. However, 16% described their health as 'fair' and 17% 'poor'. This compares with 6% of people in Scotland as a whole, who said their health was bad or very bad, rising to 12% for those in the 15% most deprived areas of the country (Clark and Kearns, 2013)³. The data also vary significantly with age: around one in three of the cohort over 40 years old described their general health as poor. Given that 19% of the cohort was over 65 years old, this raises particular challenges for increasing physical activity.

³ Note: benchmark data for Scotland cited here draws on Scottish Household Survey data from 2012, which has slightly different category options (very good/ good/ fair/ bad/ very bad).

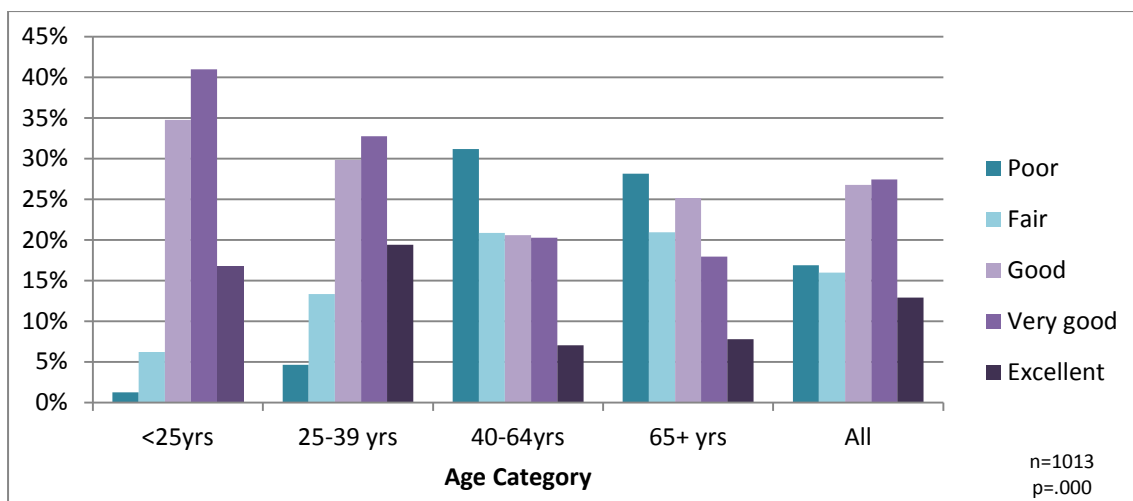


Figure 3 Self-Assessed General Health in the East End, 2012

Survey participants were also asked if they had consulted a GP or other health professional in the last twelve months about feeling stressed, anxious or depressed. A third of those surveyed replied 'yes' (29% men; 37% women).

The prevalence of long-term illness and disability is also high in the study area. 45% of the cohort described themselves as having a longstanding illness, disability or infirmity. 34% of households in Scotland overall have at least one person with a longstanding illness, health problem or disability (SHS, 2012). This figure rises to 54% for those who live in social rented housing (54%), as do just over half of the GoWell East residents (also 54%).

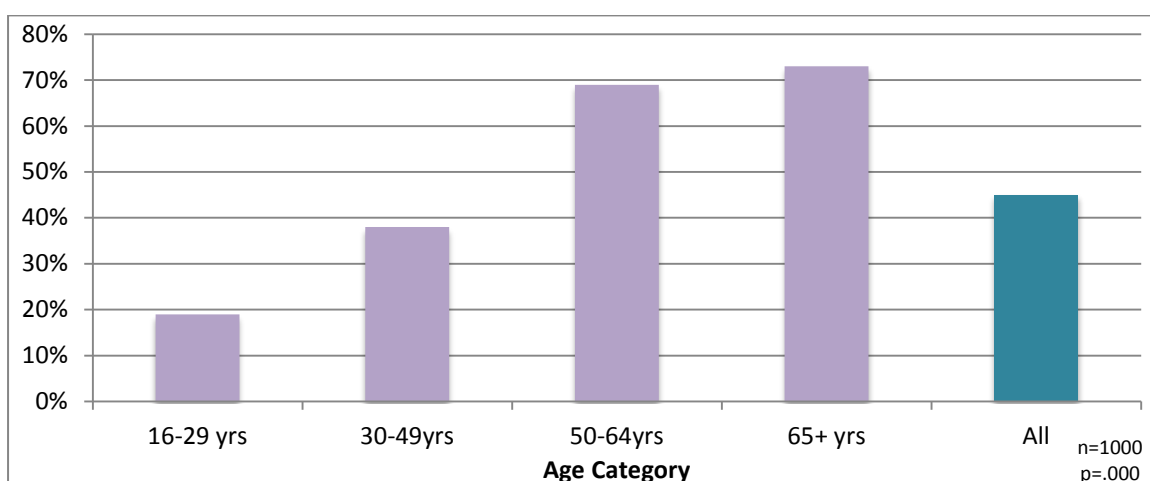


Figure 4 Longstanding illness, disability or infirmity

Committed, regular exercisers were a minority in the study cohort, albeit a sizeable one. For the purposes of the survey, we defined exercise as:

‘any activity you do to improve your health and fitness. This can include walking where you have decided to do it for health or fitness reasons’.

We then asked survey participants which of the following statements best described their current behaviour:

- I currently do not exercise and I do not intend to start in the next six months
- I currently do not exercise but am thinking about starting to exercise in the next six months
- I currently exercise a bit but not weekly
- I currently exercise weekly but have only begun to do so in the last six months
- I currently exercise weekly and have done so for longer than six months

Men were more likely than women to be regular exercisers (39% against 28%). Fifteen percent of men and eighteen percent of women did not currently exercise but said they were considering starting. Perhaps most strikingly, around a quarter of both men and women took no exercise and were not considering starting. Getting inactive people to be active is a Scottish Government policy priority with good reason (SG, 2014a; NHS Health Scotland, 2009); physical inactivity is causally linked to an extensive range of life-threatening conditions and supporting inactive people in a shift towards low to moderately active levels produces the greatest reduction in risk from a public health perspective (DoH, 2004; WHO, 2010).

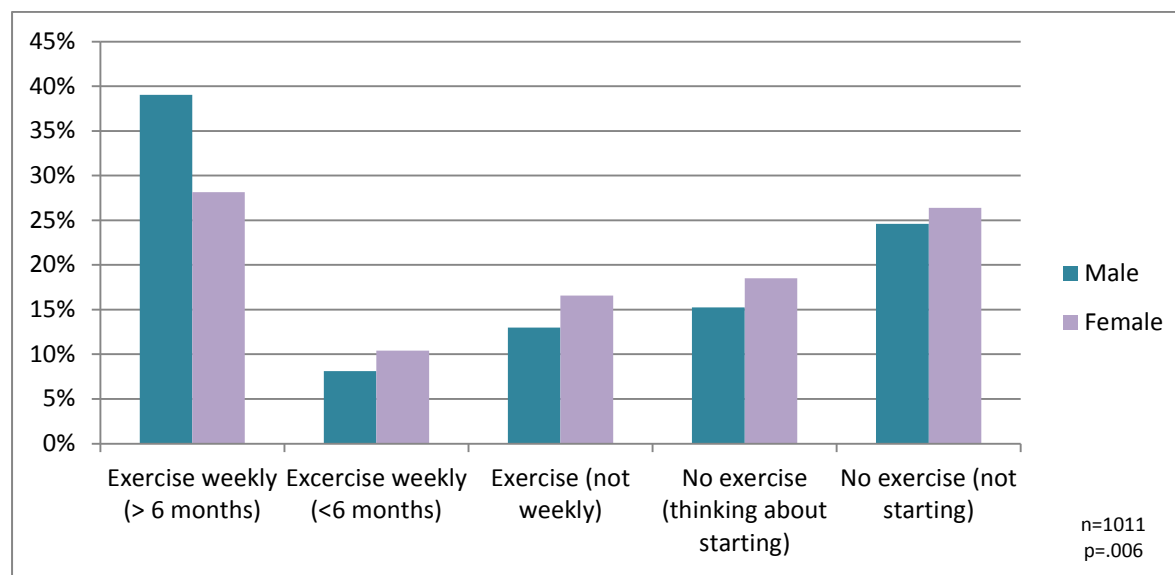


Figure 5 Current exercise behaviour

The need, or scope, for impact from ‘Active’ legacy initiatives in the study area can be considered high, in that a sizeable proportion of participants assessed themselves as having poor general health. In particular, over two thirds of interviewees who were middle-aged or older had longstanding health issues. Furthermore, as well as supporting

general health and reducing the damage done by sedentary behaviour, such as protracted periods sitting down, physical activity and sports participation can also be protective of mental wellbeing, as well as reducing anxiety and depression (Biddle and Asare, 2011; Owiti and Bhui, 2012; Ströhle, 2009).

However, participants' stated preferences for physical exercise offer less cause for optimism about a physical activity legacy. Of those in the 'no exercise' group, the majority described themselves as not intending to start exercising in the next six months. This being the case, constraints on programme impact include the level of poor health in the study area, limited readiness for behavioural change, and the fact that poor mental health may prove be a barrier to taking up opportunities for participation.

The GoWell East baseline survey also offers insight into perceived barriers to participation in sporting activities. Interviewees were offered a list of sports and other physical activities, such as dancing, cycling and rambling, and asked which ones they had done in the past four weeks (see Clark and Kearns, 2013). After this, respondents were asked if there were any particular reasons why they had not done more, or any, sport in the past four weeks. An analysis of the main barriers for both 'active' (the 58% who had participated in at least one activity) and inactive respondents (the 42% who had not played any sport) can be found in Table 3.

Table 3 Main Perceived Barriers to Sports Participation

'Active' interviewees		'Inactive' interviewees	
Barrier	% of group reporting	Barrier	% of group reporting
Difficult to find time	47	Health not good enough	49
Costs too much	22	Not really interested	20
No-one to do it with	12	Difficult to find time	20
Health not good enough	12	Costs too much	11
Not enough information	10	Feel out of place	9
Not really interested	10	No-one to do it with	8

Difficulty finding time was the most frequently cited barrier to greater sports participation for the active group (47%). Cost was also an issue for over one in five active interviewees (22%). Less frequently cited concerns were health not being good enough or having no-one to do it with (both 12%) and not enough information or not really interested (both 10%).

The most frequent barrier noted by the inactive group was that their health was not good enough (49%). Difficulty finding time or not really being interested was cited by one in five inactive interviewees. Cost was an issue for 11% and feeling out of place or having no-one to do it with were also concerns (9% and 8%, respectively).

Summary

People and Place

- Scope for impact from 'Active' legacy programmes can be considered high in that relatively large proportions of study participants have challenges with physical and mental health or a longstanding illness, disability or infirmity
- 15% of men and 18% of women expressed an interest in starting exercise
- Around a quarter of participants reported that they do not currently exercise and are not interested in starting, which presents a significant challenge in terms of readiness for behavioural change
- 58% of the cohort had participated in sport in the four weeks prior to being surveyed. In this group, difficulty finding time (47%) and cost issues (22%) were the most frequently mentioned barriers to additional participation
- 42% of the cohort had not participated in sport within four weeks prior to being surveyed. . In this group, concerns about their health not being good enough (49%), not really being interested (20%) and difficulty finding time (20%) were the most frequently mentioned barriers to additional participation. 11% of these respondents also mentioned cost as a barrier.

4: Physical Activity Legacy Programmes

Having considered the context within which the active legacy interventions were to operate, the second phase of the evaluation involved an examination of policy documents and interviews with key policy stakeholders. Based on this work, we identified legacy programmes intended to support physical activity and the pathways through which they were planned to operate. This section offers a brief overview of relevant programmes from both tiers of government before commenting on the relevance, scale, targeting and feasibility of each programme in relation to the host community.

Active Legacy Programmes

This phase of the research involved a review of all legacy programmes associated with the CWG. In total, we identified 39 legacy programmes as relevant to a physical activity legacy. Primarily these were drawn from the SG and GCC 'Active' themes but additional projects, which may also have a bearing on physical activity, were also included. These were drawn from Scottish Government legacy themes 'sustainable' and 'connected', and GCC legacy themes 'accessible', 'inclusive' and 'prosperous'.

The Scottish Government legacy theme of 'An Active Scotland' covers eleven programme areas. These include a key strategy document, *A More Active Scotland: Building a Legacy from the Commonwealth Games* (SG, 2014a). This is Scotland's second major physical activity strategy document⁴. It explicitly links physical inactivity and poor health outcomes as the rationale for setting short, medium and longer-term targets relating to: the built and natural environments; workplace settings; NHS and social care; education settings; sport and active recreation; and providing information about the health benefits of physical activity. The presence of this overarching cross-theme document signals an important long-term policy commitment. However, the main focus of this assessment is the more specific individual 2014 Legacy programmes. As well as the remaining ten SG programmes, we identified a further six initiatives as potentially relevant to physical activity, under the SG 'Connected' and 'Sustainable' themes. These promote activities including dance and active travel as well as sport.

As host city of the 2014 Commonwealth Games, Glasgow too made a legacy commitment in 'An Active Glasgow' to 'encourage a cultural change in citizens' motivation to participate in sport

⁴ Following the SG *Let's Make Scotland More Active* strategy from 2003.

and physical activity'. This overarching aim explicitly links increased sports participation and physical activity with people of all ages living 'better and healthier lives' (GCC, 2009, p.24). GCC's legacy plans list sixteen programme items under their 'Active' heading, with further relevant interventions under 'An Inclusive Glasgow' 'An Accessible Glasgow', and 'A Prosperous Glasgow'. ⁵.

We next categorised the 39 identified legacy programmes according to the pathways through which they are intended to impact upon physical activity (Table 4). In doing this, we distinguished four main pathways to a physical activity legacy: sports facilities; social infrastructure; schools; and the environment.

Table 4 Commonwealth Games 2014 Programmes - Physical Activity Legacy

	Number of Programmes	Pathway
<i>Overarching Cross-theme</i>	1	A ten-year Scottish Government policy plan to support more active and healthy lives (includes cycling and walking strategies).
<i>Sports Facilities</i>	7	Seven major new or improved sport and leisure facilities, creating greater opportunity to take exercise.
<i>Social Infrastructure</i>	18	Activities supporting the development of sports clubs, events, coaching and volunteers to stimulate participation in sport and physical activity.
<i>Schools</i>	9	Supporting initiatives to promote physical activity in education settings to reach all children and those who teach them.
<i>Environment</i>	4	Supporting physical activity and active travel through better designed environments.
Total	39	

Although several of the programmes could be categorised under multiple themes, on the basis of reviewing policy statements and speaking with stakeholders, we selected the dominant mechanism through which the programme was likely to operate.

⁵ An additional programme, Active East, was included because of its strong CWG Legacy focus and specific association with the East End. Active East is designated as an official Glasgow community-led legacy programme although not run by GCC.

We also consulted stakeholders on the extent to which each legacy programme could be attributed to the CWG, distinguishing between programmes as follows: wholly attributed to the CWG; partially attributed, i.e. enhanced or safeguarded due to the CWG; and not attributed, i.e. ongoing.

The evaluation framework was then applied to explore the potential impacts of the four main pathways in relation to the study area and its residents. The following sections consider the characteristics and delivery of legacy programmes relevant to each of the four pathways in turn.

Pathway One: Sports Facilities

This pathway reviews programmes relating to investment in new and improved sports and leisure facilities, so that people have the opportunity to take more exercise.

In preparation for the CWG, the Scottish Government and Glasgow City Council jointly supported the development of seven major new and improved sports infrastructure projects around the city. Three of these developments took place in or adjacent to the study area: the Emirates Arena and Sir Chris Hoy Velodrome ('Emirates'); Tollcross International Swimming Centre ('Tollcross'); and the Glasgow Green National Hockey Centre ('the Hockey Centre'). Glasgow Life manages all of these amenities⁶. Glasgow Life is a limited company with charitable status, set up by Glasgow City Council in 2007 to operate cultural and leisure services for the city. Public access to the city facilities is through Glasgow Life's Glasgow Club, a network of 22 gyms and 11 swimming pools across the city.

The £5.9m Glasgow Green National Hockey Centre is a completely new facility, offering two synthetic pitches and a 500 seat audience capacity⁷. It was completed in July 2013 and is sited on Glasgow Green, immediately to the south-west of the study area, next to the Glasgow Green Football Centre (although not associated with the CWG, this is also a relatively new facility, opened in 2000, with 18 pitches of varying sizes). The governing body for Scottish Hockey has leased accommodation on the first floor of the new centre.

⁶ There other legacy venues are Cathkin Braes Mountain Biking Circuit (in neighbouring South Lanarkshire Council), Toryglen Regional Indoor Training Centre (Football), Kelvingrove Lawn Bowls Centre and Scotstoun Sports Campus.

⁷ During the CWG, 4,500 additional seats were provided using temporary stands.

The £115.7m Emirates Arena and Sir Chris Hoy Velodrome is another completely new facility, completed in October 2012 and located within the study area. As well as the Velodrome, the facility includes a 10,000sqm Arena, three sports halls, which can accommodate 3 basketball courts, 12 badminton courts, four outdoor pitches for five-a-side football, a gym and spa centre and a 1km outdoor cycle circuit. The facility is also home to the Glasgow Rocks (the only professional basketball team in Scotland) and the Glasgow Wildcats (a junior netball team).

Tollcross International Swimming Centre was originally a local pool and leisure centre which received a £19.3m upgrade. After closing for refurbishment at the end of 2011, the new, extended facility opened in May 2013, comprising two 50m pools with 2,000 seats⁸, suitable for international -level competitions, a new 6 lane 50m warm-up pool, upgraded sports halls, a much enlarged gym, fitness and training equipment suitable for people with disabilities, a new dance studio, and a sizeable new community wing available for meetings and functions outside of pool opening hours.

Although not themselves directly legacy programmes, other amenities around the study area have been enhanced, partly to compensate for the closure of Tollcross during its refurbishment. Whitehill Pool, just to the north of the study area, has a 25m pool with 200 seats and a smaller training pool. The facility underwent a £630,000 upgrade between October 2011 and January 2012, gaining a new gym and community space suitable for youth-work groups, martial arts, dance and fitness classes as well as a meeting area. During the closure of nearby Tollcross pool for refurbishment, fitness classes were moved to other community venues, including Whitehill to the north and Gorbals to the south of the study area. The latter venue was designated one of two 'super gyms' in the city, where gym facilities were greatly increased in advance of the CWG, to accommodate possible displacement from venues being refurbished. Following the Clyde Gateway Urban Regeneration Company £10m redevelopment of the Olympia building in Bridgeton, the new Scottish Boxing High Performance Centre (HPC) has opened in the study area during January 2014⁹. As well as housing the sport's governing body, Boxing Scotland¹⁰, the HPC has two Olympic-sized boxing rings as part of their extensive training facilities. Finally, the running track installed at Hampden Park Football Stadium, to accommodate athletics events during the CWG, will be re-used at the Glasgow Life Crownpoint Sports Centre, just north of the study area¹¹.

⁸ A flexible space means that this can be increased to 5,000 seats, as happened during the Commonwealth Games.

⁹ Supported by investment from **sportscotland**.

¹⁰ Previously 'Amateur Boxing Scotland'

¹¹ The relocation of the track will cost an estimated £530k.

Considering the relevance of the new and improved amenities to the host communities, in 2012, prior to many of the new facilities opening, we found that 58% of interviewees had taken part in a sporting activity in the last four weeks. This figure compares well with the proportion of adults in Glasgow City (50%) and across Scotland (54%) (Clark and Kearns, 2013) who play sport. However, the difference may be partly attributable to the more detailed list of sports activities offered by the GoWell East survey, which was triple the length of the SHS options, although the latter also offered an 'other' option to allow for additional activities. Furthermore, 60% of men and 58% of women in the study cohort reported playing sport on a regular basis¹². Although men were no more likely to report playing sport than women, they did engage in a wider range of different exercises, with 29% of men, as opposed to 21% of women, reporting taking part in more than three different activities in the last four weeks (Figure 6).

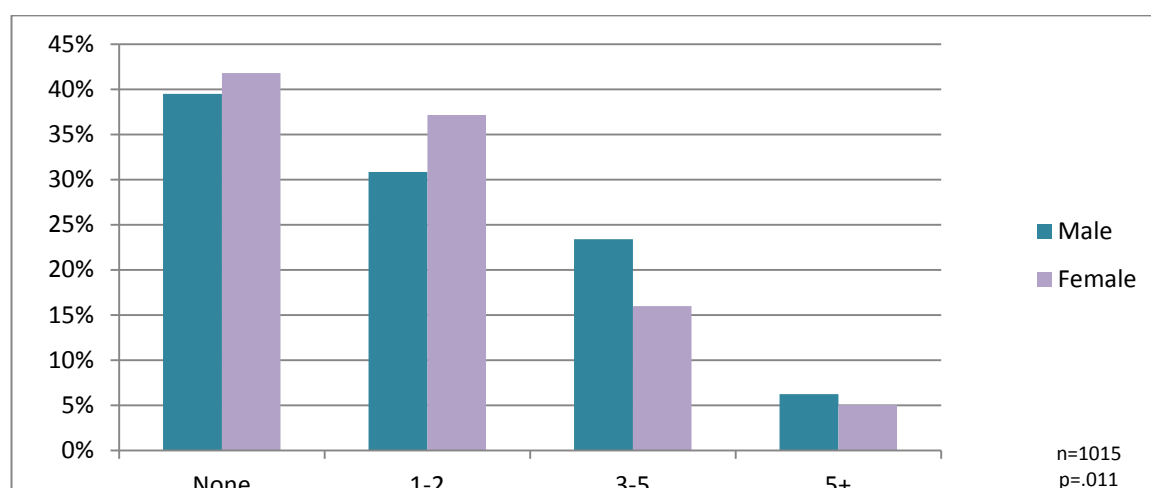


Figure 6 Number of different sports played in the last four weeks (by gender)

However, it should be noted that there were also significant differences in regular sports participation rates by age group, with younger people more likely to be involved (Figure 7)¹³. For women, regular participation in sport drops steeply from 40% for those in their 30s, to nearer 20% for those in their 40s and 50s. Male participation falls from 63% in the under 25 years age group to 16% for men 65 years or older.

¹² 'Regular' was defined as fortnightly or twenty times a year, to allow for seasonality in some activities.

¹³ Scottish Household Survey data also shows that participation in sport falls with age (SG, 2014b).

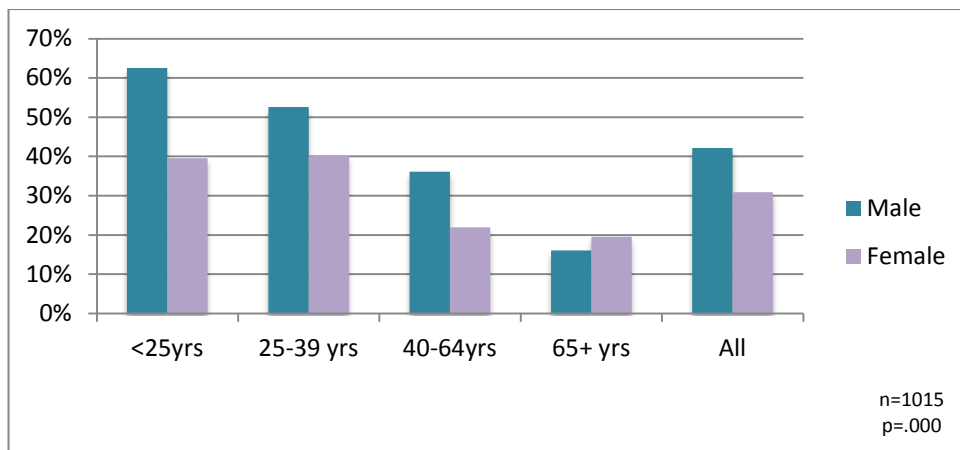


Figure 7 Regular participation in sport by age

Of additional concern, considering the relatively poor health of the cohort, is the fact that those with long-standing illness (LSI) also seem significantly less likely to use sports facilities (Figures 8 and 9). Weekly use of sports facilities is around two-thirds lower for adults with a longstanding illness, compared with others. Gym use by those with a longstanding illness is similar for men and women, whereas swimming pool use by women with a longstanding illness is slightly higher than for men.

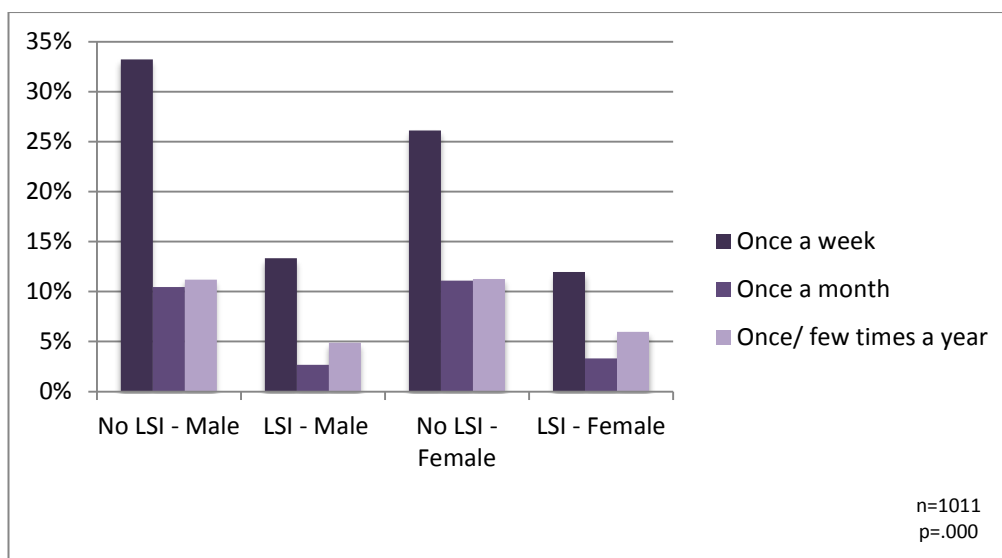


Figure 8 Sports Hall, Gym or Fitness Centre Use by longstanding illness (LSI)

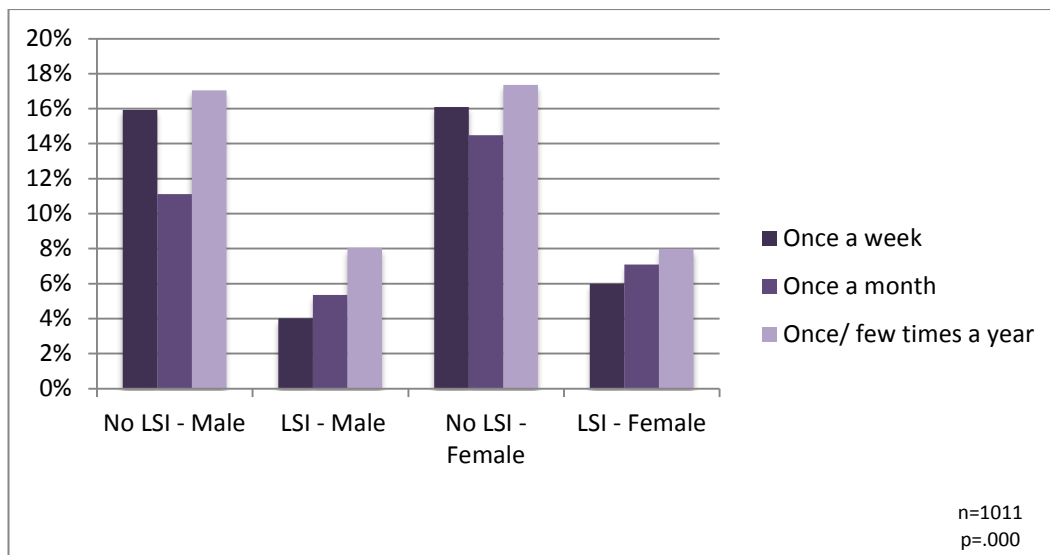


Figure 9 Swimming Pool Use by Longstanding Illness (LSI)

Summary:

In relation to the facilities pathway, the East End has seen a number of investments in new and refurbished sports venues. These are mostly large scale, although there have also been some smaller scale gymnasium improvements. We also find that regular sports participation falls markedly in middle age and among older people. Furthermore, the use of sports facilities is much lower among the large group in the study area who have a longstanding illness. It seems unlikely that the facilities pathway will work for these groups without special targeting and support programmes.

Pathway Two: Social Infrastructure

Pathway two relates to the development of social infrastructure through sports clubs, events, coaching and volunteers in order to stimulate grassroots participation in sport.

Eighteen legacy programmes fall under the social infrastructure heading. These are predominantly projects that were taking place regardless of the CWG, such as Glasgow Life exercise programmes and coaching strategies, but the outcomes of which are compatible with legacy goals. For a number of the social infrastructure projects, funding was enhanced, safeguarded or accelerated because of the project's strategic alignment with legacy aims. However, although in general the social infrastructure programmes were applicable to the host community and there was evidence of benefit to local communities, unlike pathway one, there was a lack of specific targeting at the East End other than through the presence of Glasgow Life amenities in the area, through which some of the programmes are delivered and Active East, the Glasgow community-led legacy programme.

The social infrastructure programmes can be grouped under four headings: community participation; training and coaching support; club development and support; and event-based activities. From the perspective of supporting increased levels of physical activity for the local population, it is notable that the largest grouping relates to community participation. Details of the social infrastructure legacy programmes are given in Tables 4-7.

Community Participation

Community participation initiatives are the main focus of the social infrastructure legacy pathway, covering nine different programmes (Table 5).

Although not exclusively targeted at the East End, a number of diversionary projects run through youth clubs and schools, as well as Street Soccer Scotland, are directed towards young people (and, in the case of Street Soccer Scotland, adult men and women) in disadvantaged areas and thus either operated in, or were accessible, to people from the study area. From 2011 - March 2014 the Scottish Government sponsored the Scottish Professional Football League Cup (known as the 'Scottish Communities League Cup' over that period), to support the 42 clubs' community outreach programmes across Scotland, including Celtic Football Club in the East End of Glasgow, which sits in the study area.

Table 5 Social Infrastructure Legacy Programmes - Community participation

			Of Which:	
			Wholly or partially attributed to CWG	With potential or known benefits to the East End
<i>Community Participation</i>				
Fit in 14	SG - Active	A national engagement campaign asking workplaces to champion efforts among their staff to become more active in 2014.	Yes: Enhanced/ Safeguarded	Yes
BIG 2014 Communities programme	SG - Active	Funding programme run by the BIG Lottery, offering grants of £300 to £2000 to local sports clubs, voluntary and community organisations, community councils and schools to take part or volunteer in physical activity or sport.	Yes: Wholly Attributed	Yes
Legacy 2014 Sustainable Sport for Communities Fund	SG - Active	£1m fund running from 2014-16, providing awards of up to £30,000 to support the sustainability and capacity of aspiring and existing social enterprises delivering sport and physical activity in communities across Scotland. First strand applications from 18/3/2014, second strand from 11/8/2014. The final round of funding will open for applications in December 2014.	Yes: Wholly Attributed	Unknown (Ongoing programme)
MyTime Active Healthy Communities Programme	SG - Active	BIG lottery funded healthy weight programme, helping families with overweight children by emphasising increasing physical activity and improving diet in East Ayrshire, Tayside and Glasgow. The Glasgow programme runs from January 2014-June 2016. In the future, Active East will be involved in delivery.	No: Ongoing	Yes
Street Soccer Scotland	SG - Sustainable	Football-related programmes and personal development services for socially disadvantaged adults and young people.	Yes: Enhanced/ Safeguarded	Yes
SPFL Supporting Scotland's Communities	SG - Sustainable	Funding towards the Scottish Communities League Cup is helping SPFL football clubs extend their reach into their local areas and work with partners to improve the health and wellbeing of Scotland's communities.	Yes: Wholly Attributed	Yes
Active Health ('Good Move')	GCC - Active	Programmes for senior adults: Running Network; Activity Works; Hill-walking; Outdoor Adventures; 'On Yer Bike' Cycling; Shape Up; Silver Deal Active; Live Active; Vitality and Walk Glasgow.	Yes: Enhanced/ Safeguarded	Yes
Diversionary Projects	GCC - Active	Sporting activities for disengaged/SIMD-based young people using mobile resource, youth clubs and schools. Sports include athletics, basketball and football.	Yes: Enhanced/ Safeguarded	Yes

Active East	Community-led programme	A community-based youth organisation launched in 2013 to promote opportunities for physical activity in East Glasgow and create a legacy from the 2014 Commonwealth Games for young people in the East of Glasgow by increasing levels of physical activity and building skills through volunteering.	Yes: Wholly Attributed	Yes
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Football-based environments have been successfully used as a focus for weight management interventions; in a recent study, a significant proportion of participants at high risk of ill health because of their weight made clinically important weight reductions (Hunt *et al.*, 2014). Both of the football initiatives are arguably more male-orientated. However, Celtic Football Club already has a suite of well-established community outreach programmes which go beyond football, and **Street Soccer** includes a women's group. Participation in the latter has been relatively low and the organisation is considering adopting additional strategies for engaging women, such as dance or fitness-based activities, although these may lack the 'team' component which is a beneficial factor for encouraging regular participation. However,

The '**Active Health**' suite of programmes run by Glasgow Life (recently rebranded '**Good Move**') targets an older demographic, described as 'senior adults' of fifty years plus, and includes a range of walking, cycling, running and outdoor opportunities. As part of CWG festival activities, The Big Fit Walk around Glasgow Green, followed by a quiz and refreshments at a Glasgow Life venue on the Green attracted 130 participants. In partnership with the Wheatley Group of housing associations, Glasgow Life's Active Health team also organised three Summer of Sport Commonwealth-themed sports events for older adults, including a final celebration event at Tollcross on the eastern edge of the study area. Furthermore, the Emirates Arena, within the study area, and Whitehill Pool, just to the North are designated 'Live Active' venues where, following a GP referral, participants can attend an exercise consultation, get ongoing support from a designated exercise counsellor and use the facility free or at a discounted rate for up to twelve months.

In accord with the 'Workplace Settings' delivery theme in the SG ten year physical activity strategy, the '**Fit in 14**' programme was inspired by the CWG and focused on the role of employers in boosting adult physical activity. This employer engagement programme provided information on the benefits of improving levels of physical activity to both employers and employees. Employers were encouraged to register as part of the scheme and support staff in pledges to increase their participation in physical activity, such as a personal commitment to a greater amount of active travel or group participation in charity fundraising events. The scheme attracted a number of large private sector employers and third sector participants as well as widespread support in the public sector.

Also targeting organisations across Scotland and directly associated with the CWG, the **BIG 2014 Communities Programme** was a £6.3m BIG lottery-funded programme established in

November 2008. Ongoing at the time of writing, the BIG 2014 Communities Programme offers small grants of between £300 and £2000 to support volunteering and increase participation in physical activity and sport. Community Councils and schools were eligible to apply as well as sports clubs and other community or voluntary organisations. It has made numerous awards in the study area and wider East End from 2009. Awards include small grants for sport groups, community centres, the arts and diversionary activities. Many of these are targeted towards younger people (under 25 years), supporting parent/child activity or playgroups and schools.

On a larger scale, '**Active East**' is community-based youth organisation launched in 2013 to promote opportunities for physical activity in East Glasgow. Although not itself one of the directly managed SG or GCC legacy projects, it has Glasgow 2014 Legacy Status as a community-led initiative. The project is funded through the BIG lottery, along with The Robertson Trust, Sport Relief, Cash the Scottish Government CashBack for Communities and GCC Integrated Grants Fund). It has the explicit aim of creating 'a legacy from the 2014 Commonwealth Games for young people in the East of Glasgow by increasing levels of physical activity and building skills through volunteering'.¹⁴ The Active East programme has also been successful and the first year evaluation of the programme indicated that it had exceeded targets for recruiting Active Champions and supported 25 local community groups in providing training and activities (Taylor, 2014). Within the study area, Active East has supported Active Champions (volunteers aged 14-25 working in the community), physical activity provision, and staff training support for the delivery of sports and physical activity, including taster sessions at the Emirates Arena.

MyTime Active, another family-centred programme is running in Glasgow; we have no information about current participation in the study area but the programme will be run by Active East in the future. As yet, we have no information on funding received by local groups or individuals through the **Legacy 2014 Sustainable Sport for Communities Programme** because, at the time of writing, the programme is ongoing and funding awards have still to be announced.

Training and Coaching Support

Of the four training and coaching support initiatives associated with CWG Legacy (Table 6), two are Scotland-wide and two are Glasgow-based. One of the SG programmes, **High**

¹⁴ See www.active-east.co.uk

Table 6 Social Infrastructure Legacy Programmes - Training and coaching support

			Of Which:	
<i>Training and Coaching Support</i>		<i>Order by sponsor</i>	Wholly or partially attributed to CWG	With potential or known benefits to the East End
Supporting Coaches and Volunteers	SG - Active	Continued support to local authorities and Scottish governing bodies of sport to develop the sporting workforce through a range of coaching and volunteering projects that support outcomes at every level for schools, clubs and performance sport.	No: Ongoing	Yes
High Performance Sport	SG - Active	Additional funding and support for Scotland's high performance athletes to help deliver individual and team success at the Glasgow 2014 Games and future major sporting events.	Yes: Enhanced/ Safeguarded	Unknown ¹⁵
Coaching Strategy	GCC - Active	The strategy aims to ensure the city has a larger workforce of better qualified coaches and officials meaning improved coaching provision and greater club participation.	Yes: Wholly Attributed	Yes
Performance Development Pathways	GCC - Active	Developing Glasgow's priority and disability sports squad structures, delivering individualised training/coaching opportunities and providing competition opportunities.	Yes: Wholly Attributed	Yes

¹⁵ I could be considered that the **sportscotland** investment in the Boxing Scotland HPC in Bridgeton and the presence of the new and upgraded world class facilities in the East End may also provide support to emerging elite athletes in the area.

Performance Sport, was designed to support elite athletes while the other, '**Organised Sport Workforce**', related to the Government's ongoing support for coaching and volunteering programmes across the country's Local Authorities and sports Governing Bodies.

GCC has its own **Coaching Strategy** and a group of **Performance Development Pathways**, which include both disability sport structures and fifteen 'priority' sports¹⁶. Additionally, Glasgow Life offers a subsidy of up to 75% off training costs for coaches and officials who also volunteer at Glasgow Club facilities¹⁷. The Performance Development Pathways provide training support as well as competition opportunities. Recent activity to strengthen coaching infrastructure in the city has included training nearly 1,900 new coaches, developing the **Women in Coaching Pilot Programme** and mentoring young aspiring coaches. **Glasgow Sport's Coach Core Programme** is open to 16-21 year olds and offers twelve-month apprenticeships involving a major mentoring/ training component (Glasgow Sport, 2014a). The programme allows young people to work in Community Sports Clubs and gain qualifications recognised by sports industry employers. This has been very successfully and, from the first year's intake, all of the young people involved have completed the programme and gone on to positive destinations (employment or, in one case, a scholarship in the United States). In the period 2009/10-2013/14 the total number of coaches in Glasgow has risen from 2,018 to 3,963. Furthermore, in the months running up to the CWG 1,600 people completed coaching courses, a figure up 53% on the comparable period in 2012-13, indicating that the coaching strategy has been productive.

Of the 2012 GoWell East household survey cohort, 24% had undertaken a volunteering role in the past 12 months and the same percentage expressed an interest in volunteering during the CWG. Although below the national average of 30% (SHS, 2011), this rate of volunteering is around what might be expected in a deprived area. However, only 3% of interviewees had participated in a voluntary activity connected with sport. This suggests considerable scope for increased participation in sports-related volunteering which may be supported through improved social infrastructure around training and coaching, as well as club development.

¹⁶ At November 2010, these were badminton; cycling; golf; netball; table tennis; football; hockey; rugby; swimming; volleyball; basketball; athletics; gymnastics; tennis and judo.

¹⁷ <http://www.glasgowlife.org.uk/sport/>

Club Development and Support

The club development and support theme comprises two programmes (Table 7), one from each tier of government. Taking a broad conception of wellbeing, GCC identify personal development as well as increased levels of physical activity as potential benefits from involvement in community sport.

Community Sports Hubs are intended to provide a community-based focus through which clubs can engage with the local community and grow by developing partnerships and drawing on the interests and expertise of local people. The study area, as noted earlier, is very well resourced with sports amenities and the nearest East End hub at the time of writing is at Eastbank Academy, around a mile beyond the northeast corner of the study area. It specialises in basketball, football and netball. This hosts six clubs covering five sports and has strong links with local schools (Glasgow Sport, 2014b). The **Coach Core** programme adds a further strand of support to club development, as participants work in the Community Sports Hubs as well as in Glasgow Life venues. From the start of the Coach Core pilot in August 2013 until August 2014, this represented an additional 15,300 hours of coaching support for community clubs.

In terms of **Community Sport**, Glasgow Life supports people wishing to set up a new club with advice on access to funding and coach training, to allow the club to become self-sustaining. Similarly, the organisation offers support with access to funding and resources to help existing clubs to expand, enhance coach education or gain accreditation¹⁸. Other Community Sport initiatives include the Glasgow Sport Young Leaders Programme, through which young people can gain greater knowledge and experience of coaching (Glasgow Sport, 2014d). As a result of these efforts, along with large increases in the number of coaches, infrastructure development in the 2009/10 to 2013/14 period has also seen the number of clubs associated with Glasgow Life increase from 327 to 636 and the number of clubs with quality accreditation rise from 34 to 112. As a pre-CWG initiative, Glasgow Sport issued a 'Get ready with Glasgow Sport' guide, to support clubs in preparing for any increased interest associated with the Games (Glasgow Sport, 2014e).

¹⁸ See Glasgow Sport (2014c, pp.10-11) for more information on Clubmark accreditation and clubs supported.

Table 7 Social Infrastructure Legacy Programmes - Club development and support

			Of Which:	
<i>Club Development and Support</i>	<i>Club Development and Support</i>		Wholly or partially attributed to CWG	With potential or known benefits to the East End
Community Sport Hubs	SG - Active	Homes for local clubs and sport organisations, based in facilities like sport centres, community centres and schools. The aim is to have 150 Hubs in 32 local authorities by 2016. Improved infrastructure helping to increase physical activity and encourage participation in sport throughout local communities.	No: Ongoing	Yes
Community Sport	GCC - Active	Supporting community clubs to develop and grow so they can attract more resources and deliver better sporting and personal development opportunities including the development of community sports hubs.	Yes: Wholly Attributed	Yes

Of those people interviewed for GoWell East, 21% had played sport as part of a club in the past four weeks. Thus, of those cohort members who had played sport in the last four weeks, just over a third (36%) had done so as part of a club. 22% said they had been involved with a sports or exercise group as a coach or participant in the past 12 months. It would appear therefore that clubs and organised groups are serving a fifth or more of adults in the study area.

However, the multi-functional status of the new East End facilities, as both event and community venues, may also be a concern in terms of grassroots infrastructure development. As well as general public access and event management, the amenities are required to support club participation for people at different skill levels. Given Glasgow Life's *raison d'être*, supporting community involvement in sport and cultural activities, access policies are inclusive. In addition to a wide range of discounted memberships, Glasgow 'Young Scot' cardholders and people over sixty in the Glasgow City Council area can swim for free at Glasgow Club venues. The Glasgow Life 'Happy Hour' programme, where under 18s can access five-a-side football pitches free of charge between 4-5pm on Wednesdays, runs at three East End venues, including the Emirates Arena. Similarly, much of the Velodrome schedule is programmed for taster or their relatively inexpensive 'accreditation' sessions, and all Glasgow secondary school pupils are offered an introductory session at no charge in their 2nd year. The dual pressures of managing a sports venue and public facility risks a 'hollowing out' factor, where these requirements impinge on the available resources for club development.

Event-Based Activities

The fourth aspect of building social infrastructure is event-based activities, comprising three programmes (Table 8). The SG initiative, **Games for Scotland**, was an annual programme managed by Event Scotland, which ran from 2010-2014. Up to £10,000 funding was made available to all Local Authority areas in Scotland for community events relating to CWG-themed sports or cultural activities. Glasgow Life developed proposals in each of the five years of the programme, including 2014 workshops at the Bridgeton Community Learning Campus. Dance was a particular emphasis of the Games for Scotland programme and a second Scotland-wide event themed legacy programme focused specifically on dance as an aspect of physical activity. '**Get Scotland Dancing**' was a £1.5m initiative, led by Creative Scotland (the national development agency for the arts, screen and creative industries), as part of Culture 2014. Numerous events and opportunities were held across the country in the year running up to the CWG, involving professional, amateur and novice

Table 8 Social Infrastructure Legacy Programmes - Event-based activities

<i>Event-based Activities</i>			Of Which:	
			Wholly or partially attributed to CWG	With potential or known benefits to the East End
Games for Scotland	SG - Active	Annual programme, managed by Event Scotland, providing local authorities with up to £10,000 to put on a community event, giving local people the chance to try out Commonwealth Games-themed sports and cultural activities giving the opportunity to celebrate and feel part of the Games through a sport or dance themed local event.	Yes: Enhanced/ Safeguarded	Yes
Get Scotland Dancing	SG - Connected	A celebration of dance bringing together professional and amateur dancers of all ages to perform in public spaces in our towns, villages and cities across the country.	Yes: Enhanced/ Safeguarded	Yes
Great Scottish Run	GCC - Active	One of Scotland's largest mass participation events (over 22,000 adult participants and around 2,000 young people).	Yes: Enhanced/ Safeguarded	Yes

dancers. These included: a Big Dance Pledge performance event at the Emirates Arena, amongst other places, accessible to people of all abilities; access to free dance taster classes at Dance HQ, in the Calton area of the East End; and free ceilidh days on Glasgow Green (within the study area), run by the Royal Scottish Country Dance Society. Added to this was a range of events in the Merchant City, adjacent to the western end of the study area. Underlying individual events, Get Scotland Dancing promoted networking between different groups involved in dance to raise the profile and accessibility of dance to everyone.

These dance -related events should appeal to our cohort, in that dancing was the most popular means of cultural participation identified in the 2012 survey. 50% of interviewees said they had danced in the past twelve months, including 16% who danced weekly and 13% who danced monthly. Some women find non-competitive activities more appealing (EKOS, 2011) and the GoWell East survey suggests dancing is a more female-friendly form of physical activity, with 61% weekly dancers being women, compared to 39% of men. There were also significant differences across age groups. 78% of interviewees over 65 years old said that they never danced in the past year, compared with 45% of people 40-64 year, 22% of 25-39 years olds and 8% of under 25's. Events like the tea dances run by Glasgow Life may appeal to this demographic as the Commonwealth Games Celebration Tea Dances held in outlying areas of the city during the second week of the Games were very successful, with 270 older adults attending. However, this form of physical activity also appeared to be less accessible to those with longstanding illnesses (Figure 10).

The remaining event-based legacy programme is the **Great Scottish Run**. This is the largest mass-participation running event in Scotland and includes a 'family mile', the 'junior' 2.4k option for young people and a 100m 'toddler dash' as well as half marathon and 10k races distance options for adults. The routes of both the half marathon and 10k races end within the study area, at Glasgow Green. The run is well-established and whilst not itself a new initiative, has received further GCC support, for example through local walking groups, fun runs and the East End 5k as 'feeder' events', as part of its contribution to physical activity legacy objectives. Potentially, the CWG may also raise the profile of running and stimulate local participation in the event through a role model effect.

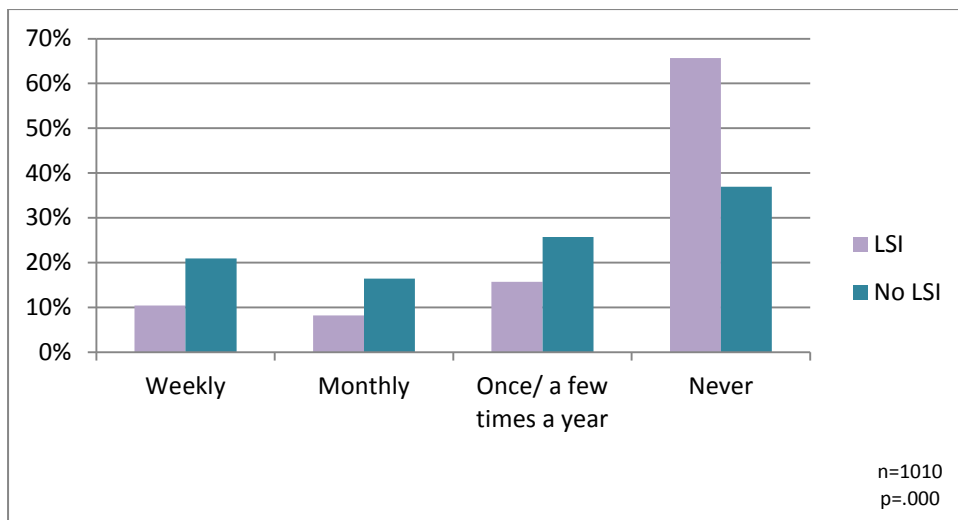


Figure 10 Frequency of dancing by longstanding illness

When our cohort was asked about participation in physical activity in the last four weeks, running or jogging was the 3rd most popular activity for men surveyed (20% participated; 14% of them as part of a club) and the 7th most popular activity for women (14% participated; 13% as part of a club). The Great Scottish Run is intended to attract people of all ages and abilities. Potentially, the proximity of the race to the study area and high profile of physical activity in the wake of the CWG may increase local participation.

Summary:

The number and orientation of social infrastructure programmes indicates an encouraging focus on mass participation. The dominant theme within the social infrastructure pathway is community participation and this suite of programmes includes inclusive measures geared towards people at different life stages and those facing additional challenges because of their circumstances. While the level of investment is modest relative to the facilities pathway, collectively the social infrastructure programmes demonstrate an understanding that providing bricks and mortar amenities is not sufficient to generate population level change in physical activity.

Although all social infrastructure programmes are potentially applicable to the study area, there is no specific targeting towards the study communities (with the exception of the community-led Active East programme). However, the presence of new and improved venues in the area means more and expanded delivery outlets for the Good Move suite of

programmes. Furthermore, the emphasis on community sports legacy prior to the CWG, along with training and coaching support should, in theory, mean that there are local amenities well-positioned to absorb any demonstration or festival effects post-Games. Notably, the East End Glasgow Life venues used in the CWG were available to the public again very quickly (partially opened by 16 days and fully opened by 22 days following the closing ceremony). However, as the majority of programmes within this pathway represent a continuity of pre-existing activities, rather than major change stimulated by the CWG, this pathway faces similar challenges to those encountered through pathway one in terms of the health of the study population and, with some programmes, cost.

The events-based programmes delivered as part of the CWG legacy effort have the potential to impact upon the study community because they have focused on popular activities, including dance and running, with significant events taking place in and around the study area. However, as with other physical activities examined so far, we see a decline in participation in dance amongst middle aged and older people and those with a longstanding illness. Furthermore, given the strong emphasis on dance, there is a question about the extent to which this activity can improve cardiovascular health, as this would depend on frequency, duration and intensity of dancing. Nevertheless, there should still be social and mental health benefits from participation.

Pathway Three: Schools

Pathway three includes programmes which involve schools in order to promote greater levels of physical activity for children.

Promoting physical activity in educational settings is delivery theme four in *A More Active Scotland: Building a Legacy from the Commonwealth Games* (SG, 2014a). In a synthesis of systematic reviews and meta-analyses Khambalia *et al.* (2011) identify a number of factors which make school-based behavioural interventions an attractive policy option:

- School programmes can reach many children in a relatively short space of time
- They can provide health education and a healthy environment
- There is scope to institutionalise programmes within the school and maintain them for extended periods of time
- Physical activity forms part of the curriculum
- Children may eat one to two meals per day in the school
- Schools provide a powerful network of teachers and peers

We identified nine programmes which used schools as a conduit for a physical activity legacy (Table 9). **Lead 2014** and **Young Ambassadors** were Scotland-wide in scope, focusing on peer mentoring and bringing together pupils of different ages in order to act as role models, stimulating and organising physical activity events. Peer-mentoring, evident in both of these initiatives, has been shown elsewhere to support significant changes that increase youth physical activity (MacDonald-Wallis, 2012; Spencer *et al.*, 2014). There has been evidence of enthusiastic uptake of both opportunities in our study area, involving staff and local pupils running active fun festivals, reward days and working with university students as well as younger pupils.

Active Schools and **Playground to Podium** are also national initiatives, although managed and delivered at Local Authority level. The Active Schools programme has been ongoing in primary schools since it was set up by sportscotland in 2000; the initiative was expanded into secondary schools and further developed following the 2003 National Physical Activity Strategy, *let's Make Scotland More Active* (SG, 2003). Active Schools co-ordinators are now well-established in schools, including within the study area, promoting links with clubs in the wider community, as well as assisting with funding applications and encouraging extracurricular physical activity programmes.

Table 9 Schools Legacy Programmes

Programme	Programme	Outline	Of Which:	
			Wholly or partially attributed to CWG	With potential or known benefits to the East End
Active Schools	SG - Active GCC - Active	Funding and support for local authorities and schools to help deliver physical education, physical activity and sport within the curriculum and the wider community. This includes PE Disability Inclusion Training for up to 2,000 teachers in Scottish schools by 2016. The GCC Active Schools Team is responsible for a range of planned activities in school and community settings including: training volunteers; providing teachers with in-service training and organising extra-curricular activities.	No: Ongoing	Yes
Lead 2014	SG - Connected	A programme of annual regional conferences where university students deliver workshops to secondary school pupils to enable them to plan, organise and manage a Games-themed sports festival for their local primary school.	Yes: Wholly Attributed	Yes
Young Ambassadors	SG - Connected	A partnership by sportscotland and the Youth Sport Trust to recruit 14-17 year olds to help inspire other young people to take part in sport, and drive opportunity, engagement and change through sport. Young Ambassadors offer young people a pivotal role as advocates, role models and leaders within their school and wider community. Young leaders engaged in developing and supporting a world class sporting system, using the power of sport to deliver a legacy for Scotland	Yes: Enhanced/ Safeguarded	Yes
Playground to Podium	GCC - Active	Introduced in 2012, the project provides disability sport pathways by identifying and nurturing disabled young people with the potential to be elite athletes focusing on 7 sports: Athletics, Boccia, Football, Lawn Bowls, Gymnastics, Swimming and Table Tennis.	Yes: Enhanced/ Safeguarded	Unknown

The Gold Medal Programme	GCC - Inclusive	GHA and Cube housing associations funding for primary, nursery, secondary or special needs schools in Glasgow to support 2014 Legacy themed projects through a grant of £55k. Bids have to be for projects which involve youngsters from GHA or Cube neighbourhoods in the city.	Yes: Enhanced/ Safeguarded	Unknown
Commonwealth Mascot Visits	GCC - Inclusive	The Games Mascot Clyde visited all schools in Glasgow before the Games in 2014.	Yes: Wholly Attributed	Yes
Lord Provost Tour of Schools	GCC - Inclusive	The Lord Provost visited every primary school in Glasgow from before June 2014. Her presentation to pupils was split into 3 parts. 1. History and role as Lord Provost. 2. Importance of having civic pride in your City and, 3. 2014 Commonwealth Games	Yes: Wholly Attributed	Yes
Schools Baton Relay	GCC - Inclusive	Active Schools Co-ordinators in Glasgow organised a baton relay over a 10 month period, travelling over 203 miles from school to school.	Yes: Wholly Attributed	Yes
Outside Now!	GCC - Inclusive	GCC Education Services strategy for taking learning outdoors, Outside Now! Was launched in August 2012. As part of the legacy of the games, the strategy states that it is an entitlement for all young people to have outdoor learning experiences throughout all sectors and stages of their education. The strategy sets out the services actions to develop innovative approaches to outdoor learning in line with Curriculum for Excellence.	Yes: Enhanced/ Safeguarded	Yes

The GoWell East Schools survey showed that S1 pupils from the relatively disadvantaged schools took part in a significantly smaller range of sports than their counterparts in more affluent schools and were more likely not to have taken part in a sporting activity in the week prior to survey (Figure 11). Teaching staff in the study area have reported that the CWG have resulted in more opportunities for pupils to try new sports, especially with the new facilities and the Velodrome nearby.

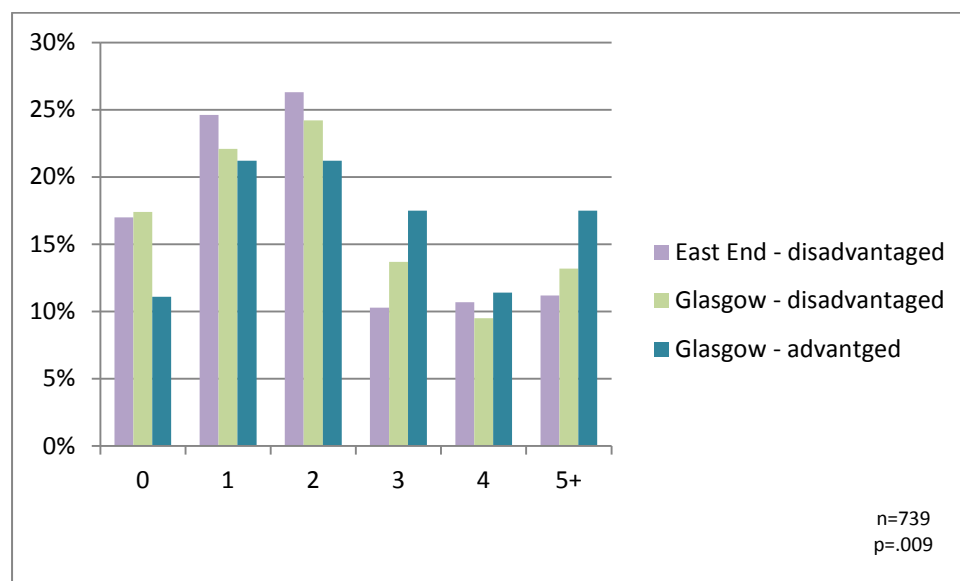


Figure 11 Schools: No. of Different Physical Activities Undertaken (Monday-Friday)

‘Outside Now!’ is the new Glasgow City Council strategy, launched in 2012, which states that all young people have an entitlement to outdoor learning experiences throughout all sectors and stages of their education¹⁹. In the period running up to the CWG, the programme had a budget of nearly £700,000, released in two tranches. This funding was available for any Glasgow school to submit bids for items or activities to support outdoor learning. However, given the extra staffing costs involved in outdoor activities as well as perhaps transport and equipment, pursuing this programme effectively is more likely to be problematic in areas without a relatively affluent parent cohort, now that the initial ‘seedcorn’ funding has been spent.

A core idea of Outside Now! is normalising activity outdoors as a creative and beneficial means of learning, rather than it being an additional or separate activity in the

¹⁹ This is a specifically Glasgow initiative but there are other local authorities developing similar programmes.

curriculum. During the GoWell East Schools survey, we found that walking or hiking for exercise was one of the most commonly listed weekend activities for S1 pupils. However, pupils from the disadvantaged schools were significantly less likely to report walking or hiking for exercise in comparison with those in more affluent areas. The difference was more marked in the case of boys from disadvantaged schools, who were less likely to have been walking or hiking than boys in the relatively advantaged schools and also walked for shorter periods of time.

Grant awards from Outside Now! have included funding for playground equipment, trips, specialist staff to lead outdoor activities and appropriate weatherproof outfits, to ensure that no-one misses out on an experience because of inadequate clothing. Schools and afterschool playgroups in the study area have benefitted from the scheme. However, not all staff we spoke with in secondary schools seemed to be aware of the initiative and the strategy may also be of limited value for secondary age pupils, where the pressure of working towards examinations can mean there is less flexibility in the timetable for outdoor activities.

The remaining four programmes were Glasgow-based, although not targeted at the East End specifically. Three involved raising awareness and interest in the CWG: the **Lord Provost²⁰ of the city** toured every primary school in the city, promoting the CWG before the event; Clyde, the **CWG mascot** visited all schools in Glasgow. Schools also reported having athletes to visit and speak with children about their experiences as well; and the **Schools Baton Relay** involved pupils from over 70 schools and nurseries travelling in a variety of different ways devised by pupils and staff. Finally, Glasgow Housing Association (GHA) and Cube Housing Association allocated £55k to their **Gold Medal Programme**. This fund was open to all schools planning to undertake legacy-themed projects in neighbourhoods where the HAs operate.

Summary:

The school-based legacy initiatives form the second-largest suite of programmes and the majority are orientated to whole school or peer-to-peer approaches²¹, encouraging physical activity in all children rather than only those who are more positively-orientated

²⁰ Lord Provost is the title held by the 'first citizen' (civic leader) in the four major Scottish cities.

²¹ The exception to this is the specialist, elite stream, Playground to Podium, for young para-sport athletes.

towards sports. We found high levels of awareness about the value of access to a range of sporting and physical activity opportunities when interviewing teaching and Active Schools staff.

Lead 2014 and Young Ambassadors seem to have been particularly effective strategies for engaging pupils in thinking about their own physical activity needs and wants. School staff report pupils trying new sports, especially those associated with the CWG, and pupils coming to staff and asking for new sports clubs. Following CWG success, staff also report new interest in boxing and martial arts. The benefit of being near to the new venues, especially the Velodrome, was commented on. However, as with the social infrastructure programmes, all pathway three programmes are potentially applicable to the study area but there is no specific targeting towards the study communities.

Whilst teaching, managerial and Active Schools staff in the two East End schools agreed that the CWG had raised the profile of new sports for pupils, some were keen to stress that growth in the number of school sports clubs and the development of links with other schools and community amenities were part of a long-term dynamic, already underway. From that perspective, the CWG is to be regarded as something which might enhance the drive to support pupil physical activity rather than a step-change. However, one sports teacher noted that, post-Games, teaching staff from other departments were markedly more willing to give time to extra-curricular sports activities.

Pathway Four: Environment

Pathway four covers programmes which aim to support physical activity and active travel through better-designed environments.

The SG legacy strategy includes two of the four programmes (Table 10) designed to support physical activity through changes to the environment. The Legacy 2014 Commonwealth Woods programme is being delivered by Forestry Commission Scotland (FSC), along with partners²², in 14 woodland areas both in and around Glasgow. The woods are intended for community use, including trails and various outdoor events and activities. The largest development is at the Cuningar Loop, on the River Clyde, just to the south of the study area. A 15 hectare urban park is being developed on this site, which was previously used for landfill and has required considerable remediation by Clyde Gateway, who partner with FCS in this project. Although this development falls under the Legacy 2014 Commonwealth Woodlands, it was originally conceived under Clyde Gateway's regeneration planning. The Park is due to open to the public during 2015 and Forestry Commission Scotland has been eager to ensure encourage local participation in the development of the Woodlands; working with Creative Scotland and Scottish Natural Heritage, two artists in residence were appointed to the Woodlands between September 2013 and February 2014. Local groups either side of the River Clyde in Bridgeton and Rutherglen have worked with the artists in residence to discuss both permanent sculptures and temporary art installations in the park, and a 'mobile museum', was created to raise awareness of the new park and its benefits for the surrounding neighbourhoods. The Park will also include a footbridge, connecting it to the Athletes Village site in Dalmarnock. Other planned amenities in the project include: path networks for walking and cycling; adventure play facilities; a bike pump track; a bouldering park; planting 15,000 trees of native species; a wildflower meadow; picnic areas; and an outdoor gym.

Findings from the GoWell East 2012 survey showed that 47% of cohort participants reported visiting the outdoors for leisure or recreation once per week or more in the past 12 months. This is a similar proportion as can be found across Scotland as a whole²³. When asked how often they went to a river, loch, canal, beach or seashore, 39% responded

²² The Commonwealth Woodland programme is being delivered by Forestry Commission Scotland, Glasgow City Council, South Lanarkshire Council, West Dunbartonshire Council, North Lanarkshire, Clyde Gateway, Cassiltoun Housing Association and Paths for All, with support from the Woodland Trust and the Commonwealth Forestry Association.

²³ <http://www.scotland.gov.uk/Topics/Statistics/Browse/Environment/outdoorvisits>

Table 10 Environment Legacy Programmes

Programme		Outline	Wholly or partially attributed to CWG	With potential or known benefits to the East End
Legacy 2014 Active Places Fund	SG - Active	£10 million fund, managed by Sportscotland, supporting community projects like new skate parks, outdoor adventure facilities and walking routes. Grants of up to £10,000 are available.	Yes: Wholly Attributed	Yes
Legacy 2014 Commonwealth Woodlands	SG - Sustainable	The largest and most significant of the 14 Cuningar Loop Riverside Woodland Park, across the Clyde to the south of the study area.	No: Ongoing	Yes
GCC Cycling Strategy	GCC - Active	Encouraging active travel through: the strategic plan for cycling; cycle proficiency training; school bike loan scheme; cycling promotional activity such as European Mobility Week, Bike Week and the Pedal for Scotland Events.	Yes: Enhanced/ Safeguarded	Yes
Walking and Cycling Network	GCC - Accessible	New cycle lanes on East End Regeneration Route; a new 5m wide footway from Dalmarnock Station to Celtic Park; upgrading of London Road and the Gallowgate corridors.	Yes: Enhanced/ Safeguarded	Yes

'never'; in reply to a similar question about woodland, forest or the countryside, 55% responded 'never' (Figure 12).

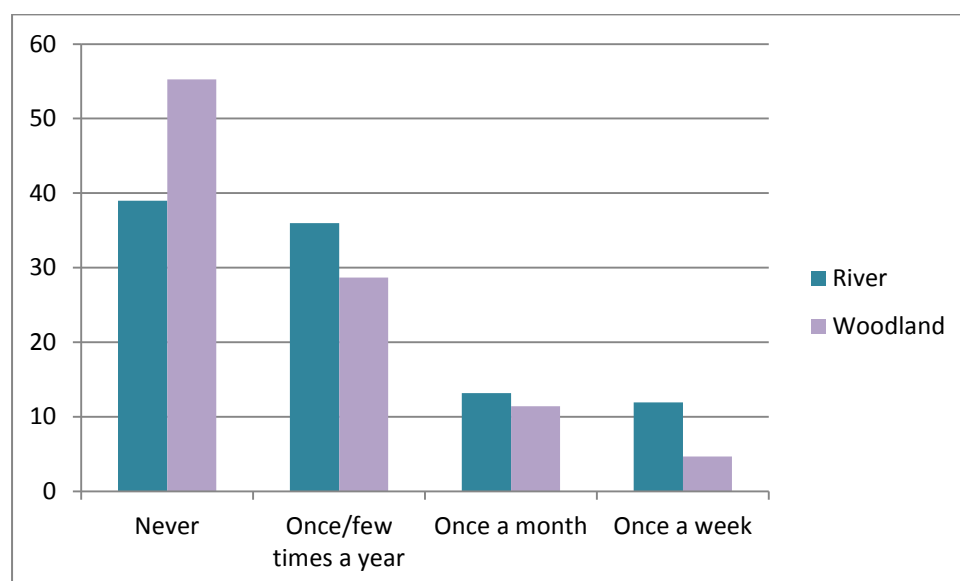


Figure 12 Frequency of visits to river/loch/canal/ beach or woodland/forest/ countryside

It might be hoped that improved access to the River Clyde and the new Cuningar Woodland Park will boost these figures and reduce disparities in access to the outdoors for older people and those with longstanding illnesses (Figure 13).

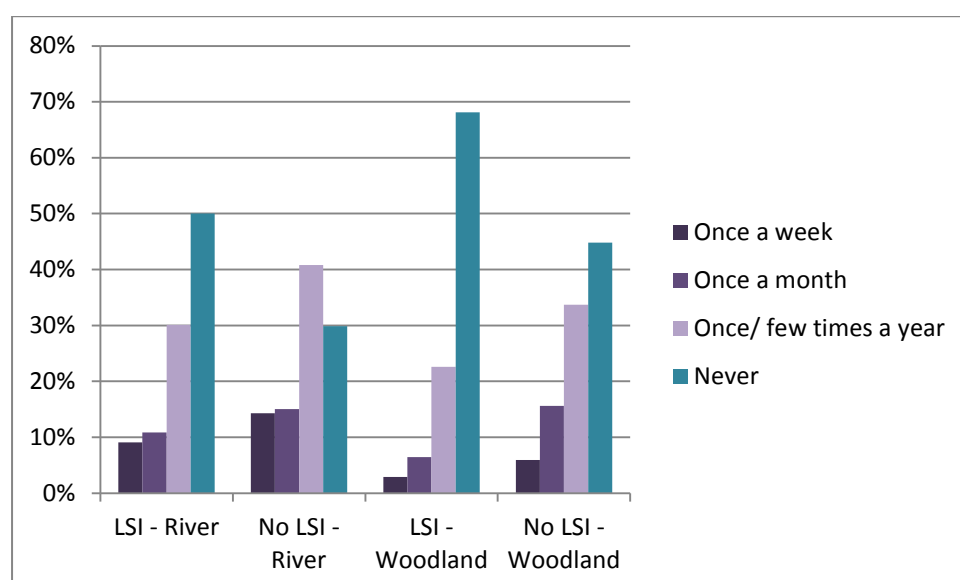


Figure 13 Frequency of visits to river/loch/canal/ beach or woodland/forest/ countryside by longstanding illness

Increasing opportunities for physical activity by altering the urban environment is also part of the underpinning logic of the Legacy 2014 Active Places Fund, managed by sportscotland. This is a £10m fund to support community projects relating to informal physical activity, rather than organised sport, with grants of up to £10,000. As well as awards have gone from sportscotland to schools and sports organisations in and around the study area through other schemes, the West of Scotland Housing Association was awarded £77,000 towards a £110,000 project in Camlachie Park under Active Places. There is a final round of funding (just under £2m), to be released in February 2015.

The other two environment programmes are Glasgow-based and focus on active travel. Glasgow's Strategic Plan for Cycling identifies the potential for cycling to contribute to improved health and wellbeing, and contains a ten-year vision for making cycling the largest participation activity in the city by 2020²⁴ (GCC, 2010). The plan includes a suite of complementary measures to be delivered through partnership working. These include: recognition that cycling serves a range of functions (utility, recreational and sporting); support for cycling through education, safe cycling campaigns, club development and volunteering; using events to raise the profile of cycling; active travel planning; and delivering cycling infrastructure improvements. The cycling strategy is city-wide and has been developed in tandem with CWG legacy planning. The new CWG facilities and elite sports events are intended to support increased participation in cycling by enhancing the profile of the activity, and also add an East End focus, relevant to legacy for the host community. A new Mass Automated Cycle hire scheme was implemented two months before the CWG²⁵, including six temporary hire sites at Games venues. Additionally, temporary signage including walking and cycling distances to venues was put in place in many central locations, supplementing already existing permanent signs in the East End.

Similarly, recent developments in the city's walking and cycling network include benefits to the East End, as the new 'Clyde Gateway' East End Regeneration Route includes a cycle lane on each side of the road and a broad footpath from Celtic Park, past the Emirates Arena/ Sir Chris Hoy Velodrome, to the refurbished Dalmarnock Station. Other new and recently upgraded cycle paths in the area connect these venues to the city centre via three routes: London Road; Crownpoint Road (where the Glasgow Club Crownpoint Sports Complex can be found); and Glasgow Green. In advance of Games time, the organisers

²⁴ The Cycling Action Plan for Scotland aims to increase bicycle travel in Scotland from 1% of all journeys in 2008 to 10% by 2020 (SG, 2010).

²⁵ See <http://www.nextbike.co.uk/en/glasgow/cycling-in-glasgow/>

promoted walking, cycling and public transport as the best way to get to venues²⁶. Given this publicity and the investment in cycling infrastructure, the temporary closure of cycle routes during July and early August 2014 attracted criticism²⁷. Furthermore, the decision to allow parking at the venues may have discouraged people from walking or cycling, rather than taking the car.

From the GoWell East survey, 18% of men and 10% of women interviewed said they had cycled in the last four weeks, making cycling the 4th most popular sporting/ physical activity for men and 10th most popular for women. 10% of men and 11% of women who cycled had done so as members of a club. Of those interviewees in work or full time education, 5% used cycling as their main mode of transport for their commute, a relatively high figure compared with 2% across the rest of the city (ONS, 2011²⁸). There were significant differences in rates of cycle commuting by both age and gender, with 80% of cycle commuters being male, predominantly in the 25-39 years age bracket. Census data for Glasgow shows a similar gender breakdown, cycle commuters across the city being 76% male and 24% female (*ibid*).

Though still low in absolute terms, rates of cycling in the study area are relatively good and, along with infrastructure improvements, there is the potential to generate further participation by local residents.

The GoWell East survey also tracks the number of days which participants report walking in the local neighbourhood for more than twenty minutes at a time (Figure 14). The second Glasgow City Plan²⁹, adopted in 2009, has an aim that new developments are designed to facilitate and promote walking and cycling, including safe, direct and well lit access to greenspace and other amenities.

²⁶ See <http://www.glasgow2014.com/your-games/travel-and-transport>

²⁷ <http://www.scotsman.com/news/transport/glasgow-2014-closure-of-bike-routes-absurd-1-3452730>

²⁸ ONS 2011 Census data available at <http://www.scotlandscensus.gov.uk/ods-web/data-warehouse.html>

²⁹ Glasgow City Plan available at <https://www.glasgow.gov.uk/index.aspx?articleid=2910>

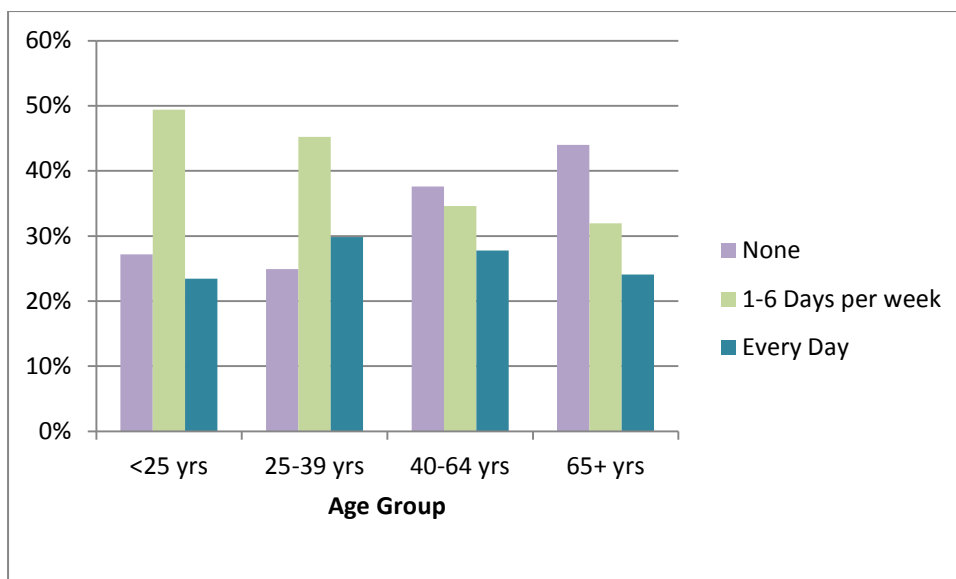


Figure 14 Days per week walking in the local neighbourhood for more than 20 minutes at a time

Like cycling, walking is conceptualised within the city plan as an 'efficient, cost-effective, sustainable and healthy means of travel'³⁰. Clyde Gateway regeneration activity in the study area has included public realm developments, and participants in GoWell East community feedback sessions have commented positively on improvements to pathways and lighting in the area.

In the 2012 baseline survey we found no significant difference in the neighbourhood walking indicator by gender. However, age was a significant factor. Interviewees in the 25-39 years age group were most likely to report walking in the neighbourhood daily. Older participants were less likely to have gone walking, with 38% of participants aged 40-64 years and 44% of participants of sixty-five years or over reporting no walking in the local neighbourhood in the week before survey. Longstanding illness also bore a significant relationship to neighbourhood walking. One in four participants without longstanding illness reported never walking in the local area, in contrast to 43% of the group with a longstanding illness. However, there was only a five percent difference between the two groups of people when daily neighbourhood walking was considered, raising the possibility that interventions which improve the walking environment or provide more local amenities might be a fruitful means on increasing opportunities for physical activity in the neighbourhood.

³⁰Glasgow City Plan <https://www.glasgow.gov.uk/index.aspx?articleid=7015> (op.cit., Section 6.32).

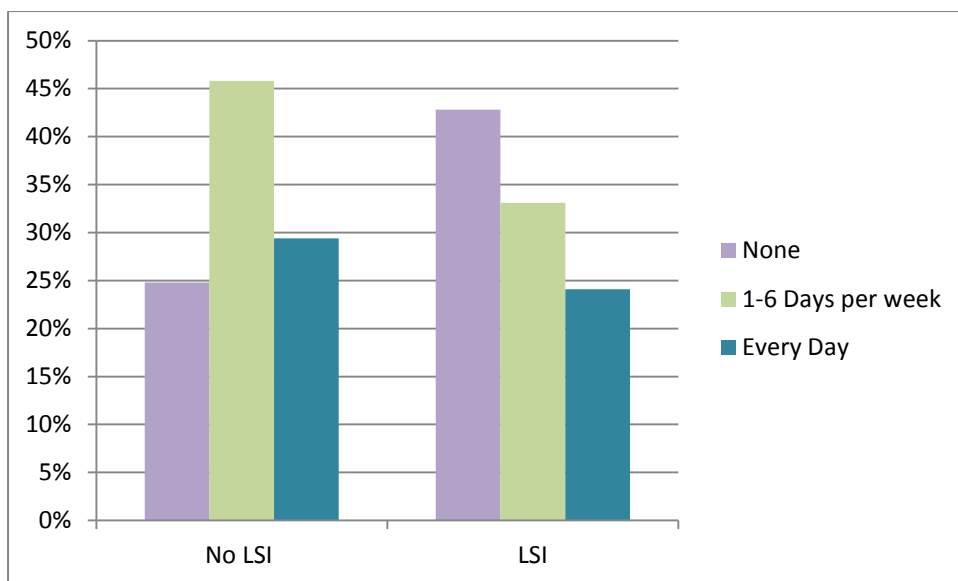


Figure 15 Days per week walking in the local neighbourhood for more than 20 minutes at a time

Summary:

The infrastructure aspect of the environmental pathway means that this suite of interventions represents a relatively large scale financial investment. Furthermore, in relation to cycling and walking infrastructure, and the Cuningar Loop, there is specific targeting towards the host communities.

The environment pathway has scope for wide relevance in that all four programmes are potentially concerned with supporting increased walking, a fundamental day-to-day activity accessible to most people. Nevertheless, large proportions of the older resident population, and of those with longstanding illnesses, do little or no local walking, suggesting the need for personal support and activity interventions to help get people walking, alongside the environment and infrastructure improvements in the area. The strong focus on cycling in the environmental pathway presents a challenge in respect of gender as women are far less likely than men to be involved in functional cycling as commuters.

5: Plausibility

In this section, we review the plausibility of the four identified legacy programme pathways impacting upon the host community, considering our knowledge of the people, place and programmes.

Pathway One: Sports Facilities

As regards the CWG acting as a stimulus to using new sports venues, there is considerable scepticism around the demonstration effect, which theorises that elite sporting activity acts as a role model, boosting participation in the wider population (see Lyle, 2009). However, three impacts relating to the demonstration effect have been found, although all of these related to those already involved in or positively orientated towards sport: increasing participation frequency; switching participation or trying a wider variety of sports; and re-engaging 'lapsed' participants (Weed *et al.*, 2009b). A systematic review of evidence relating to physical activity and a health legacy found no necessary connection between elite participation and community participation in physical activity; indeed, because of the 'competence gap', between athlete and layperson performance, exposure to elite sport may even be a deterrent to physical activity in some cases (Weed *et al.*, 2009a).

The core assumption of active legacy programmes is that new or improved facilities will provide greater opportunities for physical activity. A minimum expectation of the providers is that these facilities must be well used, so it is important that they are appropriate to the needs of the city and their utility over the longer term considered (Gold and Gold 2008; Smith, 2012). In the case of Glasgow, there are a number of encouraging factors for the accessibility of amenities to local people. In the 2012 community survey of the study area, 41% of participants said that they intended to use a new or improved sports facility linked to the CWG. Furthermore, Glasgow Life is responsible for the management of the new facilities and, as such, they are run as normal 'Glasgow Club' amenities, open to Glasgow Club members and Pay As You Go users at the same rates as other city facilities. Furthermore, the fact that the new and enhanced facilities were open to the public over a year in advance of the CWG and rapidly reopened afterwards (four weeks after the event) should further help establish them as normal city venues. This relatively rapid re-opening mitigates one of the challenges for multi-sport

events acting as a catalyst to increased physical activity: that of having venues available to cope with increased demand following events (Cox, 2013).

That the new and improved venues are embedded into the existing Glasgow Club structure increases the likelihood that they will be well used and there is some suggestion that local residents have taken up memberships at a higher rate around the new amenities than in other areas across the city. Early evidence in relation to the use of the venues indicates that in the year prior to the CWG, attendances at Glasgow Life sports facilities overall increased by 5% on the previous year, from 5.4 to 6.6 million per annum, and in the first six months of opening, there were 540,000 attendances at the Emirates, including 42,000 at the Velodrome, with usage levels increasing to their highest levels in the three months before the CWG (EKOS 2014; Glasgow Life, 2014). The value of venues to the local community is a subject of contention and harder to gauge (McCartney *et al.*, 2013; Paton *et al.*, 2010). Using Glasgow Club membership as a guide, across the city 12.0% of the population (aged 15 years or over) are members; around the Emirates and Tollcross, the membership rate was found to be slightly higher, at 13.9% and 13.8% respectively (EKOS, 2014). The same evaluation of investment in CWG venues further states that, following a survey of both Glasgow Club members and Pay As You Go users in three venues, including Tollcross and the Emirates, 14% of Glasgow Club members and 11% of PAYG users said they had not been physically active prior to involvement with the venues (EKOS, 2014). However, these figures still represent a low percentage of the adult population.

Constraints

Difficulty finding time was cited as a barrier to sports participation by 47% of 'active' and 20% of 'inactive' residents in the pre-Games community survey, suggesting that the proximity of the new venues may provide benefit, although particularly for those who are already active. Also considering barriers to exercise, the high profile of the venues during the CWG and, to a lesser extent, during future tournaments, may encourage the 20% of inactive interviewees who described themselves as 'not really interested' in sports participation. Similarly, the community wing at Tollcross can be used as a function venue for banqueting, conferences and weddings as well as for smaller-scale community events. Familiarity with the amenity in another context might reduce the effect of feeling out of place mentioned by 9% of the inactive interviewees. Emphasising the Glasgow Club connection and offering non-sport reasons for the community to use the Emirates may be

particularly valuable, particularly since the building has a rather stark, unfriendly appearance, which presents more as an elite sports venue than a local facility.

Nevertheless, despite the positive aspects of the pathway one developments for an active legacy in the East End, 66% of women and 60% of men surveyed had not used a gym or sports hall in the last 12 months and 60% of women and 68% of men had not used a swimming pool. For respondents with longstanding illnesses, these figures are 79% both men and women for gym or sports hall use and 79% female/83% male swimming pool use. Additionally, for those who do use the new facilities, there is an element of tension in that the venues continue to be used for competition events. Although this secures the future of the facilities, this means that venue space and, depending on the scale of the event, auxiliary halls, are not availability to the public at different times of the year. Considering the importance of establishing habits in taking exercise, only having intermittent use of amenities is problematic.

Furthermore, although the cost of using facilities may be competitive relative to private venues, cost was cited as a barrier to sports participation by over one in five of the active and more than one in ten of the inactive cohort members in the 2012 survey³¹. Concessionary discounts of around 30% are available to people in a wide range categories, including those over sixty years old, people with disabilities, asylum seekers and people in receipt of a number of benefits³². However, the most cost-effective way of using the facilities is through direct debit [which requires access to banking facilities]. In 2014 this cost £26 per month or £23 per month for people who were able to commit for twelve months, sums beyond the reach of many households in the study cohort.

Summary

Of the four pathways identified in active legacy programmes, the sports facilities pathway has attracted by far the greatest investment and targeting of the East End and will leave a lasting physical presence in the study area. The new sports facilities built for the CWG are less likely to be used by local people than the normal Glasgow Life facilities. Whilst there are many encouraging aspects in relation to local use of facilities, there are serious constraints on the value of this pathway in that a relatively small minority of people have

³¹ A greater proportion of the inactive group may be further from contemplating exercise and not have assessed cost as an issue.

³² <http://www.glasgowlife.org.uk/sport/join-glasgow-club/corporate-concession-discounts/concession/Pages/concession.aspx>

Glasgow Life membership and most people do not use gyms. Furthermore, the cost of using amenities, for many households, will be prohibitive.

Pathway Two: Social Infrastructure

The second active legacy pathway identified in our analysis is focused upon building social infrastructure around sport and physical activity. If the multi-sport event itself communicates sport and physical activity as positive social values (Smith, 2012), a stronger social infrastructure could provide opportunity, incentive and positive reinforcement around participation. This is important in that, as well as the micro-scale problem of conflicting priority between the event/ community facility functions of the venues, a further concern relating to elite sport and grassroots infrastructure, is that a focus on elite sport can in some circumstances lead to the underfunding of child participation and adult recreational activities; with this in mind, Crawford stresses the importance of securing and strengthening funding for sports participation at community level (2009).

Although the venues were not available for public use around the time of the CWG, the profile of sport and associated volunteering at multi-sport events can attract interest and generate enthusiasm around participation, which can then in theory be captured using appropriately targeted programmes (SPEAR, 2010), though ‘festival’ effects. A key aspect of capturing any festival effect is placing emphasis on physical activity and participation, rather than sport *per se*, and tailoring programmes to match the values or interests of potential participants (Weed *et al.*, 2009a). Given the importance of a sense of community, the presence of major venues in the study area should be a further positive factor, providing a focus for festival effect impacts. The *Community Participation* and *Event-Based* programmes (Tables 4 & 7) are more likely to be of value to the majority of the East End study participants than the specialist *Training and Coaching Support* options. The range of options available, targeting young people, people in the workplace, disadvantaged youth and adults, as well as senior adults, is in accord with the nuanced *festival* effect approach. Following the CWG, Glasgow Life have also launched their ‘Good Move’ single access point to programmes at all levels of physical activity in association with sportscotland and the NHS, as well as the ‘Good Move’ and ‘Keep Your Games Face On’ publicity campaigns³³. This may provide some improvement for the 9% of ‘inactive’

³³ Good Move is an information campaign, particularly targeted at less active people, and Keep Your Games Face On includes two reduced cost one-month and twelve-month membership offers during September 2014.

survey participants who reported concern with feeling out of place and the 10% of 'active' survey participants who listed 'not enough information' as barriers to doing more sport.

Constraints

Considering the potential of social infrastructure measures to boost physical activity at population level, there are similar limitations as occur with pathway one in respect of the proportion of the population interested in engaging with organised sport. Although there are non-sporting support roles such as umpiring (which may themselves involve some additional physical activity for participants), these tend to be fulfilled by people who have previously been active in sport, rather than those furthest from regular physical activity.

Nearly half (49%) of 'inactive' interviewees in the GoWell East baseline survey (the 42% who had not participated in sport in the last four weeks) and 12% of the 'active' interviewees noted concerns about their health as a reason for not taking part in any/more sport. Cost of participation is also a constraint with this pathway, although some community initiatives for more disadvantaged participants, such as **Street Soccer**, may not have charges. Given that difficulty finding time was an issue for 20% of 'inactive' and '47% of 'active' survey participants, opportunities to be active beyond traditional (or even new) sports venues are to be welcomed.

However, there are three limitations here. The GCC Legacy Framework has provided a focus for documenting programme activity and outcomes, strategically aligned with legacy objectives. However, it is difficult to gauge the extent to which some of the 'new' legacy programmes represent a step-change from previous activity and, so, whether any dramatic behavioural change might result. Secondly, the main new female-friendly initiative, 'Lets Get Scotland Dancing', is a time-limited programme and whilst there was wide participation, it is unknown how sustainable access to dance activities will be after the festival period ends. Thirdly, although more community based opportunities for physical activity can provide benefits, these are most likely to meet demand from already active people, rather than the priority inactive group (DoH, 2004; WHO, 2010; NHS Health Scotland, 2009; SG, 2014a).

Summary

Overall, although the level of financial investment in the social infrastructure pathway is low when compared with the cost of new and upgraded venues, the relatively large number of Active legacy plans relating to social infrastructure is appropriate, considering the role of grass-roots community engagement and the presence of community programmes in supporting demonstration or festival effects (Kemlo and Owe, 2014; Weed *et al.*, 2009a). A main benefit of support for community-based programmes is increased access to opportunities for physical exercise. Furthermore, the development of the 'Good Move' single point of web access for people of all levels of fitness and the strategy of targeting different population segments, such as younger, working and older people, is indicative of an inclusive approach. Nevertheless, the criteria for 'festival effect' physical activities are very loose, for example, participation in one-off dance or community clean-up events would qualify (SPEAR, 2010); additionally, this participation may involve minimal exertion or perhaps a simple displacement of normal activities. Moreover, as there is mixed evidence on a link between the example of elite sports performance and greater public participation in sport, complementary community-based activity is important in maximising the potential impact of mega sporting events; a successful demonstration effect is more likely to be evident when programmes supplementing the main events have been planned (Weed *et al.*, 2009a). However, even in this case, the effect may be short-lived (*ibid.*).

These challenges may be exacerbated by tensions around the multiple functions that the new sports venues are required to accommodate, hosting major sports tournaments, acting as community facilities and providing space for club development at all levels. More importantly, where any charges are involved cost is likely to remain a barrier to participation, especially for financially struggling and workless households. Jolly (2013) highlights the risk of policy rhetoric in favour of community development in sport, which is not matched by funds. Our investigations also indicate that many of the social programmes intended to deliver a physical activity legacy are modestly funded and of finite duration. Moreover, whilst the programmes are often well-targeted at particular groups most in need of enhancements in physical activity, they lack the backing of a large-scale public information campaign to raise the general value of sport and physical activity within society, and among the East End community in the medium- to long-term.

Pathway Three: Schools

Considering the third pathway and the plausibility of boosting physical activity levels in younger people, the Toronto Charter for Physical Activity (Bull et al., 2010) recommends using educational environments as a means of prioritising physical activity, suggesting:

- A high-quality, compulsory curriculum emphasising non-competitive sports;
- A range of activity programmes to maximise participation, regardless of skill level, and with a focus on enjoyment;
- Physical education training for all teachers;
- Opportunities to be active during class, in breaks, at lunch time and after school.

As well as providing a social environment in which to effectively support child physical activity behaviour, habits formed in childhood and adolescence influence future adult behaviours and health (CEDAR, 2012). Concluding their literature review, Verrotti *et al.* recommend school-based behavioural interventions as a key strategy in obesity prevention, as changes in lifestyle are easier to implement at this stage than in the adult population (2014). There is also some evidence that major sports events may be associated with increased participation in younger people; after the 2003 Rugby World Cup in Australia there was a marked increase in sports registrations in the junior rugby category (Frawley and Cush, 2011). Furthermore, in relation to multi-sport events, although there is no necessary ‘trickle down’ effect from being exposed to elite sport, there is some evidence that young people in schools may widen the range of sports they play on the basis of major events involving new or unusual sports (Weed *et al*, 2009a).

Proximity

With the exception of the major infrastructure projects, falling under pathway one, the schools pathway has the greatest proportion of programmes wholly attributable to the CWG. There are no programmes particularly targeted towards the host community. However, proximity to the new venues has made it easier for local schools to take advantage of the new facilities, reducing the challenge of transport costs and travel time, both of which have been reported as constraining factors in physical activity field trips by other schools in our study. Being close to high profile, high quality venues may also enhance any ‘festival’ impact of the Glasgow-wide awareness-raising initiatives such as the Lord Provost Tour and Commonwealth Mascot visit to all schools, encouraging pupils to access opportunities close at hand. Furthermore, teaching staff have indicated that the

CWG and proximity to major venues has raised the profile of sport for local school pupils in the East End. This was discussed by local teaching staff in relation to the ongoing programme of high-profile competition events as well as the CWG. The new venues have been used for school sports days, as well as for visits for sports 'taster' sessions and training for accreditation in the Velodrome. This engagement with the CWG venues is expected to be ongoing.

Feedback from Active Schools in the study area indicates that the CWG year had shifted the attitude towards physical activity within schools from a discrete subject area to something with 'whole school' relevance, and added a greater awareness of opportunities for physical activity in the community outwith the school grounds and school hours. Peer mentoring between pupils, across different educational institutions, and within schools, seems to have been particularly effective in encouraging pupils to take ownership of their own physical activity wants and needs, although there is some debate between staff about how much of this can be attributed to the CWG rather than ongoing school initiatives.

Constraints

The potential of pathway three to deliver benefits for young people in the East End area is constrained by resource issues and social norms. With regard to the first concern, both school and parental resources are at issue. Active Schools co-ordinators have provided a useful link between schools and been supportive in writing funding bids with teaching staff. Nevertheless, the fact that schools are in competition with one another for funding raises questions of equity, in terms of the relative needs and capacity of schools in more challenging areas to acquire what they need. Furthermore, although there are suggestions that the CWG may have enthused non-PE teaching staff about providing extra-curricular support for school clubs, 'burn out' and the high demands which engagement with pupil clubs can put on teachers' personal lives has been a recurrent theme in teacher interviews. This new enthusiasm, therefore, may be short lived and schools which are best able to raise money from parents to support physical activity or coaching specialists and extra-curricular excursions will remain relatively advantaged. Traditionally, taking pupils outside of school grounds, even to greenspace opposite the school, has required a lower pupil/ staff ratio, so incurring extra staffing costs and raising funds to support any outdoor initiatives is likely to be a greater challenge.

Further considering the role of parental resources, although there is mixed evidence on the relationship between socio-economic status and child physical activity (NICE, 2007), parental support for physical activity has consistently been found to be a positive influence on child behaviour (Trost and Loprinzi, 2011). This support can be in the form of: activity-related advice; emotional support, including attending performances; promoting physical activity and providing encouragement; and instrumental support, such as signing the child up or providing transport (*ibid.*). In the Schools study, teaching staff from more and less disadvantaged areas have provided evidence of marked differences in the level of support parents are able to provide for child physical activity. In one of the more affluent areas, parents could supply food and drinks for all children going away for a team activity; East End teachers described pupils being limited to in-school activities because outside of school, parents may be working erratic hours and the pupils may themselves have commitments such as caring for younger siblings. Thus, a further constraint on the schools pathway is that the ability of the school to support pupil behaviour beyond school hours is particularly limited in areas where parents are living in difficult financial circumstances.

A further challenge, beyond school, lies in the nature of contemporary recreation practices. A considerable amount of pupil leisure time is devoted to sedentary activities: using computers; watching television or DVDs; and playing computer games. The S1 Schools survey found that 22% of boys and 10% of girls spent, on average, five hours or more 'screen time' on weekdays. At weekends, those figures rose to 37% for boys and 22% for girls³⁴.

Summary

The school is a particularly important environment for children in relatively deprived areas, such as the East End, for supporting access to opportunities with little or no cost to the child's family (SE, 2003). There are no programmes particularly targeted towards the host community but the proximity of the new venues has been an advantage for local schools in accessing new opportunities. However, limited resources, particularly parents' ability to provide financial and other instrumental support to child physical activity is a constraint on the success of this pathway. Furthermore, the schools pathway is restricted in scope for influencing the sometimes high proportion of leisure time children spend in sedentary activities outside school.

³⁴ Included in these figures were 13% of all boys and 5% of all girls who spent ten hours or more per day on screen time at the weekends.

Pathway Four: Environment

The environment programmes fall into two categories, relating to informal exercise opportunities and active travel. The World Health Organisation draws attention to physical activity and health as societal issues, rather than simply about individual behaviour; environmental issues, including lack of parks, recreational facilities and pavements, are identified as making regular participation in sport and physical activity a challenge for many people (WHO, 2003). The fourth legacy pathway encompasses multiple strategies to encourage active travel and informal, recreational physical activity, including through the Commonwealth Woodlands project and Legacy 2014 Active Places. High quality, accessible greenspace provides an effective population-wide strategy for health promotion and has also been identified as a means of reducing health inequalities (Marmot *et al*, 2010 Richardson and Parker, 2011). As well as supporting increased physical activity, exercise in greenspace is associated with lower levels of stress and greater mental wellbeing (Giles-Corti *et al.*, 2005; Grahn and Stigsdotter, 2003; Mitchell, 2013; Pretty *et al.*, 2005, 2007). Furthermore, the environment is more of an influence on older people than other age groups (Day, 2008); an important concern in terms of targeting some of the less active people in the cohort.

Although there is a lack of clear evidence relating to health effects from population-level interventions, active travel has been shown to improve fitness, general health and mental wellbeing for targeted participants by increasing levels of physical activity (de Nazelle *et al.*, 2011; de Geus *et al.*, 2007; Ogilvie *et al.*, 2007). An international review on infrastructure and intervention programmes to increase levels of cycling has shown that ‘virtually all the available evidence indicates that policies make an important difference’, although a complementary package of policy measures, covering transport, housing, land use, and car pricing/ restraint is recommended (Pucher *et al.*, 2010, p.S122). Early evidence from the London 2012 Olympics also suggests that a demonstration effect may have operated following medal success in cycling; there was a significant increase in the number of people cycling recreationally following the event, along with increased numbers of non-cyclists (particularly parents wanting to support their children) who described themselves as more motivated to take up the activity (Grous, 2012).

Day-to-day activities, such as walking or running errands, are a particularly important aspect of physical activity in disadvantaged neighbourhoods (EKOS, 2011). Considering the neighbourhood environment, adult walking for five or more days per week has been associated with the use of local facilities, feeling safe after dark and the quality of parks and open spaces (Mason *et al.*, 2011; 2013). Considering the younger population, evidence from a systematic review has indicated that children undertaking active travel to school have higher overall levels of physical activity than those who use motorised transport (Lee *et al.*, 2008). Additionally, research with primary school children has shown that making a change from motorised to active modes also increases levels of physical activity (Smith *et al.*, 2012).

Unlike many deprived communities, there is good access to greenspace in much of the East End; the 2012 baseline survey of the study area found that similar proportions of the study cohort and the Scottish population overall visited the outdoors once a week (47% and 46%, respectively) and more than three-quarters of interviewees rated the quality of local parks and greenspaces positively (Clark and Kearns, 2014). Whilst these prior circumstances might be considered to limit the potential of the environmental pathway to bring about change, there was significant variation in the data by subarea and in Dalrnock 48% of interviewees gave a rating of 'very poor' to their local green space. Considering the importance of proximity in greenspace use (Coombs *et al.*, 2010), these ratings may change in the future because of the new woodland park development at Cuningar Loop, which will provide a major new amenity for outdoor recreation close to Dalrnock.

Similarly, within the East End study area, levels of active travel are already relatively high, most likely due to low levels of car ownership. In the 2012 baseline survey, 33% of participants used active means of travel to get to work or full-time education, including 5% who cycled; this compares with figures of 16% active travel across Glasgow as a whole and 15% across Scotland (Clark and Kearns, 2013). The Glasgow Schools Survey also suggests an appetite for active travel, in that while 1% of secondary pupils cycle to school, 10% say they would like to cycle to school (GCC, 2010). Three out of five S1 pupils in the GoWell East Schools survey travelled to school only using active means, walking and cycling, and there was no significant difference in these figures between schools in more or less affluent areas (Clark and Kearns, 2014).

Additional to infrastructure developments and supporting active travel promotion measures, the CWG may further influence levels of active travel. There is some support for the plausibility of this perspective from Smarter Choices Smarter Places³⁵ data, which between 2009 and 2011 indicates that while the number of cyclists crossing the whole city centre cordon rose by 7.12%, flows across the East End part of the cordon increased by 10.4% (*ibid*)³⁶. The question of how much of this traffic originates in the East End of the city remains unanswered. Furthermore, focus group work reported some negative perceptions of specifically off-road cycle paths, which were assessed as being for strangers or outsiders and, as such, were associated with negative perceptions of cycling (SCSP, 2013). At the same time, from 2009 to 2012, the same research showed that attitudes to cycling had become more positive, with greater numbers of people believing cycling was a healthy way to travel around (over 80% of respondents) and that there were good cycle lanes and parking in their area (over 50%).

Constraints

The Legacy Woodlands and Active Places initiatives support the recognition in the second Glasgow City Plan that people need places to walk *to* and the Cuningar Woodland Park, joined to the study area by a footbridge, is likely to provide a high quality destination. However, a potential constraint on the impact of this pathway is that, the environmental legacy programmes do not in themselves offer much to enrich the local urban environment for day-to-day walking activity (e.g. in the provision of local retail, social or cultural amenities over and above the new sports facilities).

Furthermore, although Clyde Gateway has contributed positively to the quality of the urban realm, baseline survey data from GoWell East showed that a relatively low percentage of respondents felt safe walking alone in their local area after dark (52% as opposed to 61% in Glasgow overall or 68% across Scotland) (Clark and Kearns, 2013). Furthermore, one in five interviewees in the study area considered vacant and derelict land a serious problem in their area, while 44% considered litter lying around a serious problem (Clark and Kearns, 2013; 2014). These issues of neighbourhood environmental management and maintenance need to be monitored as they are likely to undermine

³⁵ The Smarter Choices Smarter Places (SCSP) programme ran in the East End of the city from 2009-2011, partly as a complement to CWG-related infrastructure works. Together with a package of cycle promotion measures, project activity included monitoring flows of cycle and pedestrian traffic into the city centre from all locations, as well as between the East End and the city centre (2013).

³⁶ There has been not statistically significant change in the mode share of cycling over this period (SCSP, 2013); however, this is benchmarking against Scottish Household Survey data on *main* mode of travel to work (or place of full time education) and so will only be sensitive to changes in this indicator.

efforts to encourage neighbourhood walking through larger scale infrastructure and improvement works.

Summary

The environmental pathway has attracted considerable investment in terms of the Woodland Park development and active travel infrastructure. However, although there are positive indications in terms of the growth in cycling as a form of active travel, as previously noted, women tend to be more reluctant to cycle as a form of transport. Additionally, for those on a low income and for households with multiple children, a bicycle can be a significant expense.

Greenspace can provide benefits at population-wide levels (Richarson and Parker, 2011) and, considering the health challenges faced by some of the host population, interventions to support walking can be effective for all, including the most sedentary (Ogilvie, 2007). Furthermore, because walking does not require financial outlay and is accessible to people at many levels of fitness, the environment could be a most useful pathway for the host communities of the CWG. The policy aim of creating a 'walking culture' in Scotland, where over 30% of journeys are walked, is recognised as offering public health, economic, environmental and social benefits (SG/COSLA, 2014). However, for plausible impact on walking habits, continued efforts to improve the neighbourhood amenities and the quality and safety of the urban environment in the East End will be necessary.

6: Conclusion

Prior analysis has concluded that there is a shortage of robust evidence connecting multi-sport events with positive health outcomes and little evidence in relation to specific mechanisms (Kemlo and Owe, 2014; McCartney *et al.*, 2010, 2013; Weed, 2009a). Before the London 2012 Olympics, the Culture, Media and Sport Committee reported that 'No host country has yet been able to demonstrate a direct benefit from the Olympic Games in the form of a lasting increase in participation' (CMSC, 2007, p.37). Within the same report, they identified the development of community sport and an expansion of school sport as the most likely pathways towards a sustained increase in sports participation.

In this report, our aim has been to present a prospective assessment of the likely impacts of the Glasgow 2014 Commonwealth Games (CWG) on physical activity for the host communities around the main Games site in the East End of the City. Although there is tentative evidence of increased sporting participation following the London Olympics, this has not occurred at population level, or in relation to achieving recommended levels of physical activity. A further note of caution must be sounded in respect of the far smaller scale of the Glasgow 2014 CWG, which involved only around 15,000 volunteers and a relatively modest budget of £0.5bn, in contrast to 75,000 volunteers and £8.8bn at the London 2012 Olympics. A dose of realism is also engendered by the latest evidence from London and in particular for one of the host boroughs for the Olympics, Newham, which is the fourth most deprived borough in London³⁷ and thus exists in similar circumstances of poverty as the East End of Glasgow. It has recently been reported that levels of physical inactivity in Newham in 2013 were among the highest in England, at 39 percent of the local population (UKActive 2014), suggesting that playing host to a multi-sport event in the UK, even a large one with physical activity legacy ambitions, is no guarantee of positive and significant physical activity outcomes.

In order to conduct the evaluation of physical activity legacy prospects in Glasgow's East End, we reviewed the major legacy programmes from the CWG in order to identify initiatives which are intended by their sponsors to support increased levels of physical activity. Following this, we used policy documents and stakeholder interviews to

³⁷ see www.londonpovertyprofile.org.uk

understand the mechanisms through which the programmes were intended to work. As a result, programmes were categorised under four different pathways:

- **Pathway One - Sports Facilities:** This pathway includes programmes relating to investment in new and improved sports and leisure facilities, so that people have the opportunity to take more exercise.
- **Pathway Two - Social Infrastructure:** This pathway relates to the development of social infrastructure through sports clubs, events, coaching and volunteers in order to stimulate grassroots participation.
- **Pathway Three - Schools:** This pathway includes programmes which involve schools in order to promote greater levels of physical activity for children.
- **Pathway Four - Environment:** This pathway covers programmes which aim to supporting physical activity and active travel through better-designed local environments.

This concluding section provides an overview of the extent to which each pathway combines relevance, effective delivery and plausible effects whilst avoiding or mitigating the effects of significant obstacles.

Pathway One - Sports Facilities

There is demonstration of relevance to the local community of new and refurbished sports facilities in that 'Glasgow Club' membership, which allows access to city sports facilities, is slightly higher in neighbourhoods around the new facilities than it is in the city overall. Furthermore, in the case of Tollcross International Swimming Centre, just to the north east of the study area, the integration of new community facilities within the sports venue may increase familiarity and the appeal of the Centre. However, GoWell East survey evidence indicates that for middle aged and older people in the study area, and the relatively high percentage of local resident with longstanding illness, disability or infirmity, usage of sports venues in the area is much lower than for others.

Delivery has been effective. Through early attention to legacy planning and the alignment of new sports facilities within the existing sport and leisure framework, the common pitfalls of building new amenities for a major sports event are likely to have been avoided. Facilities were all open to the public and in use at least one year before the Games and reopened within four weeks of the closing ceremony. Furthermore, during periods of

temporary closure, Glasgow Life expanded provision in community facilities and the closest alternative sites.

This pathway has attracted the highest levels of investment and is likely to continue to be a benefit to many local people interested in using sports facilities. However, the plausibility of the pathway is seriously constrained in that only a small percentage of people have Glasgow Club membership, the facilities seem to be less attractive to the older population and those with health problems and, finally, even at discounted rates the cost of the amenities are likely to be prohibitive for poorer, particularly workless households who are prevalent in the study area.

Pathway Two - Social Infrastructure

The social infrastructure pathway contains the largest number of initiatives, which we have categorised under the headings of: community participation; training and coaching support; club development and support; and event-based activities. The focus on community participation initiatives, which make up the majority of social infrastructure programmes, is encouraging from the perspective of engaging our host communities. These programmes are also targeted at different population segments, including young people, older people, working people and socially disadvantaged adults and young people, as well as including small grants for local sports, voluntary and community organisations. Arguably, some programmes have a more male orientation, with less to engage women. Together, the training and coaching support initiatives and club development and support programmes represent more of a continuation of existing strategy rather than additional contribution related to the CWG. As such, they are likely to be more attractive to those already engaged in sport and less accessible to older and less physically healthy people in the study area. Event-based activities, with their focus on mass participation are more likely to engage the wider population in additional physical activity.

The social infrastructure pathway has been delivered through well-established networks, many of which have pre-existing links to the study area including Glasgow Life, the BIG Lottery, Creative Scotland and Celtic Football Club, thus enhancing their likely relevance and success. However, the event-based activities which have potential for mass participation do not look likely to be sustained or focused particularly on the study area.

Pathway two programmes along with the rapid re-opening of new and upgraded sports facilities in and around the study area should support demonstration or festival effects from the CWG. However, there are significant constraints on the effectiveness of the pathway. While the social infrastructure programmes may support positive change for some less active people, there is a question as to how valuable festival effects may be; whilst one-off or short term participation in taster sessions or dance events is clearly a desirable thing, it will not necessarily precipitate an ongoing increase in physical activity. 'Get Scotland Dancing' is likely to have been an effective means of involving women and it would be good to see similar long-term, sustainable initiatives. Nevertheless, it should also be recognised that some activities may represent little more than occasional activity or involve minor intensity in exertion. Furthermore, as with pathway one, perhaps the most important constraint is that sports-based physical activity has a limited appeal. Beyond this, the cost of kit, equipment, and participation/ membership charges have been mentioned as barriers by both residents and local policy practitioners. Physical health, or *perceptions* of poor health as a restricting factor, is also likely to be an inhibiting factor for many in the host community.

Pathway Three - Schools

The majority of initiatives under the schools programme take an inclusive approach, targeting increased physical activity for all, peer-to-peer encouragement, and supporting pupils in identifying their own physical activity needs and wants. The Lord Provost's tour of Glasgow schools and visits from Clyde, the CWG mascot (along with other supporting educational initiatives) were used to connect local pupils to the CWG and the value of physical activity.

Delivery of programmes was, in the main, effective with local schools taking advantage of their proximity to the East End CWG cluster. Although, along with others, local schools received an allowance of free tickets to CWG events from Glasgow City Council and Glasgow Life, the late issue of these and the fact that teachers were on holiday at the time of the Games meant that it was not always possible to take advantage of the opportunity in time.

The schools pathway is a plausible avenue for increasing levels of child physical activity and, hopefully, establishing habits that will last into adulthood. During interviews, staff at local schools reported pupils trying new sports and coming to staff to ask for new clubs, particularly for CWG sports including judo and boxing. There has also been more interest

from other staff in supporting extra-curricular sports and physical activities. However, the potential impact of this pathway for the study community is constrained by two major factors. Firstly, being in a relatively deprived area, the schools face a greater challenge in fundraising and instrumental parental support in comparison with schools in more affluent areas. This can limit the opportunities available to pupils within the East End schools. However, the proximity of the new and upgraded venues is mitigating this issue to some extent. Secondly, sedentary behaviour in free time is a major issue and this pathway has limited reach into pupils' lives beyond school hours. Even where schools do provide opportunities outside of normal hours, limitations on parental finances and other life circumstances can restrict scope for taking advantage of opportunities outside of school.

Pathway Four - Environment

Pathway four is concerned with informal, rather than organised, physical exercise and active travel. The strength of this pathway for the host community is that, unlike those pathways more focused on sport, environmental interventions which encourage walking are potentially relevant to most of the population, regardless of age or physical fitness level. Although there are at present no Active Spaces initiatives in the study area, the Cuningar Woodland Park development should provide an accessible resource and more reason to walk in or near the local area. The CWG have raised the profile of cycling, and policy at both city and national levels seeks to promote this activity at recreational, transport and competitive levels. There is considerable scope for increasing the percentage of people who cycle as a mode of transport. However, the focus on cycling as a mode of active travel is less widely applicable than walking and tends to appeal more to male than to female travellers.

As for delivery, new cycle paths were in place in time for the CWG and urban realm improvements are ongoing, under the auspices of Clyde Gateway. The Cuningar Woodland Park is not due to open until 2015.

Potentially, pathway four has the greatest relevance to the greatest proportion of the host communities, in that environmental interventions have the potential to impact upon physical activity as a part of daily life rather than as a discrete activity requiring special effort. Community feedback has indicated that improved pathways and lighting have had a positive impact on local walking and there is some evidence that rates of cycling may be increasing. Additionally, we have been told that improvements to the train network and the presence of new sports and business facilities around the south of the study area have

led to a sense of 'buzz' around the area. However, to fully realise benefits from an improved urban environment and active travel infrastructure, more and better local shopping, recreational and cultural amenities would give people more reasons to walk habitually in the local neighbourhood. Again, though, the expectations of health benefits from daily physical activity need to be realistic, as walking and cycling locally are likely to be low intensity rather than brisk in nature.

Summary

Having reviewed legacy programmes in relation to the policy aim of increasing physical activity, we find that the environmental pathway, which aims to supporting physical activity and active travel through better-designed environments, is likely to provide most benefits for the host community at population level. The significance of walking is underscored by some of the barriers to sports participation noted in the GoWell East community survey, including: difficulty finding time; cost; health not good enough (see pp. 20-21). For those who are simply not interested in sport, the WHO remind us 'physical activity should not be mistaken for sport...physical activity is any bodily movement produced by the skeletal muscles that consumes energy' (WHO, 2011, unpaginated). Walking costs nothing, can be part of a daily routine, requires little extra time, and can be accomplished by people in even quite poor health. Short bouts of walking, from three up to ten minutes at a time, can be accumulated over a day, benefitting aerobic fitness, reducing blood pressure and risk factors for cardiovascular disease (Myashita *et al.*, 2008; Park *et al.*, 2008; Woolf-May *et al.*, 1998)

We should also point out at this stage that the four pathways examined do not operate in isolation: all make valuable contributions and some cross-theme benefits have been achieved. There are indications that additions and improvements to sports facilities are benefitting local people; they also provide more space within which social infrastructure can be developed. The extent to which targeted efforts to support physical activity for different population subsets continues following the CWG year is of great interest.

As for the educational pathway, local schools appear to have gained some advantage (or mitigated disadvantage) through proximity to the Games venues, and cycling development for the younger generation is being pursued in a range of ways, in school and at the Velodrome, at the same time the local cycling network has been developed. However, in an environment where schools must compete for funding to extend or sustain

opportunities for physical activity and outdoor learning, we would suggest that the particular constraints under which schools from relatively disadvantaged areas operate should be recognised in funding support structures.

Finally, for the ongoing success of the environmental pathway and to support daily exercise, attention must continually be paid to the less glamorous, day to day matters that contribute to a safe and attractive environment: street cleaning; lighting; clearing derelict land; re-purposing vacant buildings; and ensuring cycle paths and pavements are unobstructed and safe to cycle on. In addition, encouraging physical activity in the local area also depends upon continued enhancement and additions to local destinations, be they retail, leisure and recreation, or cultural. All these things, in turn, are dependent on the regeneration efforts in the area being maintained in the medium- to long-term.

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Notes:

ⁱ In addition to the GoWell East survey response rate of 9.8%, there were 7.9% of valid addresses in the study area where we made contact with the occupant yet no interview was achieved despite there being no declared non-participation in the study, i.e. the occupant either never made a firm arrangement for interview or did not keep any arrangement(s) made. Refusals totalled 43.1% and non-contacts were 39.2%. The main factors identified as affecting the survey response were: security concerns in the area and the prevalence of bogus callers; a recent police campaign advising residents not to answer the door to cold callers; survey fatigue and some cynicism about researcher in the area making any difference to people's lives; the advent of several major sporting and other events during summer 2012, which meant people were busy with other things. The achieved sample is weighted by age, gender, housing tenure and study sub-area. Comparisons made during the weighting process showed that the sample was very representative of the population in these regards, with the differences between sample and population proportions typically ranging from 3% to 6% per category. We have also checked to see whether our sample may have influenced the attitudinal responses we have collected from participants. In statistical tests of respondents' attitudes to the Commonwealth Games, we found no differences in attitudes according to either the number of door-knocks or contacts it took to achieve an interview, in other words, easier to reach and harder to reach respondents did not differ in their attitudes to the Games.